Industrial Equipment News

FOUNDED 1933

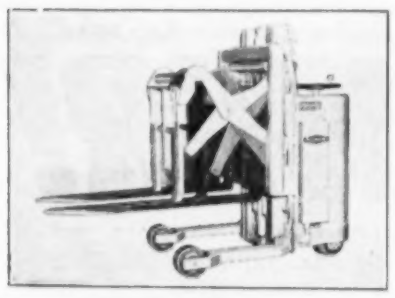
ORIGINAL REPORTER OF *What's New* IN EQUIPMENT, PARTS, MATERIALS

AFFILIATED WITH THOMAS REGISTER OF AMERICAN MANUFACTURERS

If you write maker identify as **IEN - 4816**

TRUCK . . Power lift fork design also advances and retracts the forks

Source: RAYMOND CORP.
35 Madison St., Greene, N. Y.



"Boarding house reach"

Ready-Fork trade names new design in the company's Spacemaker line of power lift trucks. It is characterized by the pivoted arm support on which the forks are mounted. These pivoted arms move up and down as a unit with the forks for vertical elevation to 51 in. of free lift height. They also pivot at their centers, after the forks have been brought to a predetermined elevation, to move the forks a maximum distance of 24 in. to the front of the truck horizontally.

The arrangement permits carrying a load in a narrow aisle and turning it to face a storage space. Then the load can be lifted and moved forward for deposit. In reverse direction, a load can be picked up from a storage pile, brought back close to the truck and carried to another location.

Load wheels at the front measure 10 by 5 inches. Travel is by motor connection to the left rear wheel which constitutes the drive and steering mechanism. The right rear wheel is a knee action swivel caster that permits short radius turning and compensates for uneven floor surfaces. Load rating is 1 ton. Power is supplied by a 12-volt battery that slides into place for quick servicing.

If you write maker identify as **IEN - 4817**

METAL . . Aluminum alloy presents permanently lustrous finish

Source: FROMSON ORBAN CO.
204 E. 43rd St., New York 17, N. Y.

Made in Germany

Lurium trade names a new aluminum alloy containing varying percentages of magnesium. It is now available in commercial quantities in standard shapes, sheets, coils, strip, bar, tube, wire and extrusions in soft, half-hard and hard tempers. It is characterized particularly by its ability to take a permanently lustrous high finish that will not tarnish or lose its lustre in normal service or after having been submerged in salt water. Typical applications include ornamental trim for motor vehicles, appliances, costume jewelry, lighting fixtures, reflectors.

The metal can be fabricated, anodized, dyed to simulate gold, silver, platinum, copper, brass. The company has arranged for facilities to process the metal as required.

1933 — 1953

Twenty years of specialized product information service originated by Industrial Equipment News in May of 1933

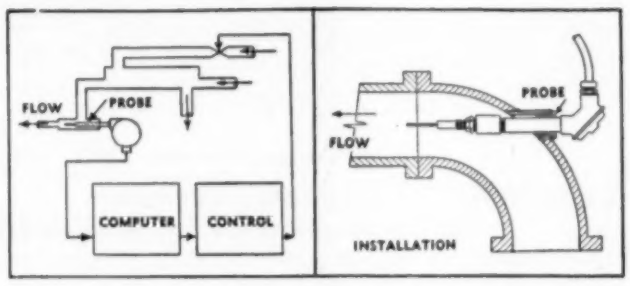
3,164,800

See page four

If you write maker identify as **IEN - 4818**

TESTING . . Ultrasonic instrument measures and controls fluid viscosity

Source: BENDIX AVIATION CORP.
201-5 W. 3rd St., Cincinnati 2, Ohio



Typical probe and a control setup

The company announces acquisition of the Ultra-Viscoson ultrasonic viscosity meter previously described IEN-4659-52. Volume production of the instrument has started in its Cincinnati Division. The meter generates and applies ultrasonic waves to a probe mounted in a liquid. It employs the probe reaction to provide a meter reading and to actuate indicating, recording and control equipment.

Application can be made in containers, processing equipment, pipe lines, test tubes, in either permanent or temporary arrangement. Readings can be made and controls established over Newtonian liquids such as lubricating oil, syrup, unbodied varnish, vegetable oil, various food products. Non-Newtonian liquids also can be measured and controlled without time lag. Representative are starch slurries, chocolate, paint, liquid adhesives, blood, printing ink, putties in the forms of colloids, emulsions and suspensions.

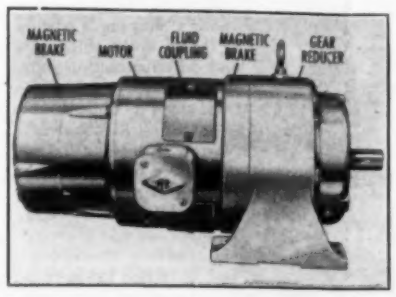
The probe is hermetically sealed and about the size of a fountain pen. It is suited for pressure rating to 1,000 lb. and operates in a temperature range, on continuous duty, between minus 180 and plus 650 deg. F. Interval required for a reading and resulting control action is less than 100 milliseconds. Thus control action is practically instantaneous.

The electronic equipment, the meter and control connections are enclosed in a rectangular housing that can be mounted at distances to a mile from the probe. Four decade ranges can be set up with maximums at 50 to 50,000 centipoises. Control action is provided by standard equipment such as that manufactured by the Bristol Company. This company has prepared illustrated descriptive information in its 6-page Product Data W-1840.2-2, available upon request.

If you write maker identify as **IEN - 4819**

DRIVE . . Geared head motor with two brakes and hydraulic coupling

Source: REULAND ELECTRIC CO.
Westminster & W. Mission, Alhambra, Calif.



Triple action unit

New assembly of motor, brakes and coupling provides for smooth transmission of power to a load with equally smooth deceleration when the motor circuit is opened. These characteristics are coupled with ability to hold a load stationary or to apply braking action while the load is still in motion. The new equipment consists of a magnetic brake, a motor with an internal fluid coupling, a second magnetic brake and the gear reducer connecting to the output shaft. Typical application is in a crane travel drive. Motor rating ranges from ½ to 5 hp. with 18 output speeds minimum at 16 and maximum at 520 rpm.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

MAY, 1953
VOL. 21 No. 5

PRODUCT FINDING INDEX

What do you need? . . . check this complete subject index for your current product needs. Asterisks (*) after page numbers mean editorial items. Others refer to advertisements.

ABRASIVES 6, 89, 103
Adhesives....6*, 60, 91, 95*
Air Conditioning 64
Alloys 3, 38, 51, 82*, 93
Aluminum 1*, 22*
Assembling 30
Awnings 56

BABIES 5*
Bags 64
Balancing 33*, 50, 51, 82*
BALLS, Metal 52
Plastic 97
Barriers, Parking Lot 50
Batteries 39*
Bearings 2, 4, 20, 39, 40, 59, 65, 82*, 91*, 110, 115*, 122, 125
Bellows 25, 54*, 64*
BELTS
Conveyor 47*, 77, 117
Fastenings 95
Transmission 49, 82*, 93, 128
Bench Tops 54
Bending 10*, 12, 17*, 33, 42, 44, 47, 58, 62, 99, 110, 117, 125
Bins 19
Blowers 34*, 36, 81, 82*, 119
Board, Building 47
Boilers 74, 82*, 84, 118
Bolts 52, 86, 89, 101
BOOTHS, Spray 55*, 55
Telephone 102
Boring 19*, 42, 43
Boxes 30, 60*, 69, 85
Brakes 5, 10, 49*, 49
Brazing 2, 83, 99
Bronze 93
BRUSHES 15, 53, 81
Buckets, Clamshell 39
Buildings 11*, 47, 56, 63, 81*
Bundling 11, 64, 75
Burring 6, 17*, 33, 35, 36*, 37, 38
Bushings, Drill 41, 77, 94

CABINETS 4, 55, 85
Cable, Electric 3, 15, 53, 69, 80, 82*, 87, 126
Calculating 22*
Canvas 113
Capacitors 55, 83*
Carbide Parts 114
Carbon Parts 65, 86
CARS 90
Casters 31, 48*, 68, 105, 117*, 118
Castings 51, 83*
Cement, Iron 10
Centers, Machine 68*, 95*
CHAIN, Bead 117
Fittings 102
Transmission ..7, 84*, 100*, 108
Chairs 43, 97, 121
Chemicals 23*
Chucks 46, 83*, 109*
Circuit Breakers 44
Clamps ..22, 32, 48, 53*, 79*, 87, 97, 99, 101, 105, 106*
CLEANING
Blast 9, 21*, 34, 67*, 100, 118, 123, 125*
Blower 119
Floor 15, 22, 26, 44, 58, 82
Materials 41*, 48, 66, 68, 83*, 102, 105*, 117, 125
Rotary 44
Spray 28
Ultrasonic 2*
Vacuum 36, 46, 82, 99*, 99, 119
Vapor 28, 88
Washing 55
Clothing, Protective 56, 66*, 68, 83*
Clutches 15*, 18*, 45, 49, 73, 84, 119*
Communicating 24, 46, 102, 122
Compressors 8, 22, 28, 47, 59, 113
Conductors, Electric 3, 15, 29, 53, 69, 80, 87, 126
Conduit Fittings 67
Connectors, Electric ..43, 48*, 63, 69, 79, 87, 89*, 98, 100
Contactors 108
Contacts, Electric 72
CONTROLS, Electric 112*
Engine 111
Humidity 124
Level 10, 12*
Positioning 43
Pressure 45, 76, 114
Process 77*, 83*, 84*, 107
Production 26, 110, 116
Temperature 10, 32, 83, 84*, 92, 101, 124
CONVEYING, Apron 18
Belt 9*, 12*, 24, 47*, 58, 68, 74*, 76, 77, 84*, 87*, 117, 128
Chain 38*
Flight 25*
Overhead 6, 7*, 14, 18*, 30, 68, 79, 122*
Pneumatic 84*
Roller 6, 7, 29, 112*
Screw 22
Spiral 84*
Wheel 10
Cooling 3, 11, 41, 65, 84*
Corrosion Proofing 35, 37, 57, 66, 74, 76, 87, 88, 99* 100*, 123
Counting 31, 66, 89, 110*
Couplings, Shaft 3, 29, 118
COVERS, Dock 21
Guide Pin 59
Machine 75*
Process Vessel 120
CRANES....18*, 22*, 79, 103, 115
Brakes 10
Wheels 8
CUTTING
Abrasive....20*, 61*, 72, 115
Machines 30, 40
Tools....23*, 37, 54, 65*, 70, 84*, 94, 114
Cylinders, Power....10*, 18, 37*, 104, 105, 110, 114, 116

DEGREASING 2*, 28, 88
Detectors, Metal 5
Disinfecting 102
Dispensing 21, 73*, 75, 93*, 100, 102
DOORS 14, 41*, 72, 111
Hardware 72
Operators 22, 29
Drafting 3, 23*, 84
DRILLING, Attachments 56*
Bushings 41, 77, 94
Heads 63, 121
Jigs 28
Machines....16, 108*, 110*
Tools 36, 43*, 45, 63, 89, 94, 112, 128
DRIVES, Adjustable Speed....13
Components 3, 7, 15*, 18*, 29, 43, 45, 49*, 49, 50, 53, 62, 73, 74, 77*, 84, 93, 99, 100*, 108, 119*, 128
Speed Reducer 1*, 9, 32, 38, 53, 85*, 86, 92*, 93, 94*, 99, 113
Variable Speed 5, 26, 76*, 82, 118
Drying 52*, 83
DUCT, Electric 29
Ventilating 84
Dust Collecting 14, 33*, 55, 75, 86*, 100, 102

ELECTRICAL PRODUCTS....43, 97
Electronic Products 50, 86*
Elevators 46*, 86*, 88, 90, 92, 98, 108*
Engines....11*, 17*, 23, 39, 127*
Engraving 101
Erasers 84
Explosives 86*
Exterminating 68*, 77
Extinguishing 2, 20, 27*, 56*, 124*
Extruding 97*

FABRICATING 19
Fabrics 113, 126*
Fans 27*, 41, 42, 59*, 66, 89*, 96, 97, 102, 107, 108, 124, 126, 128
Fastening Tools 40
Fastenings 3*, 9, 13, 20, 23*, 23, 52, 56, 61, 67*, 69*, 70, 74, 80, 86*, 86, 89, 101, 104, 113, 117*, 119, 120, 122*, 123
Faucet Repair Parts....12, 112
FEEDING 9, 70, 77*, 86, 88, 122, 127
Felt 71, 87*
Fence 19, 54
Filing 49
Filling 20*, 58*, 71, 73*
FILTERING, Air 4, 23, 45
Liquid....7*, 37, 40, 85, 98, 126*
First Aid 17, 97*
Flexible Shaft Equipment....32, 60
Floats 84
Floors 7, 9*, 42, 47*, 69*, 73, 78, 79*, 81, 82, 86*, 88*, 100*, 122, 123, 125, 127, 128
Forging 23*

Reader Service Form....16, 112
Useful Information 22
New Literature 82
Ideas For You 64
"I Wish I Had" 128

FORMING 33, 47
Foundry Equipment 59*
Fountains, Drinking 65
Furnaces 44, 82, 124
Furniture....43, 44, 54, 78, 97, 121

GAGES, Dimensional....19, 65, 70*, 73*, 76, 78, 87, 102, 125
Level 78*, 103, 106
Pressure 101, 118
Tension 41
Gaskets 81, 87, 93
Gear Cutting 40*
Gears....45, 50, 53, 92, 99
GENERATORS, Electric....63, 120*
Steam 74, 84, 118
Glare Proofing 65*, 101*
Glass 88*, 101*
Gloves 15, 26, 33, 62, 67, 68, 79, 106
Goggles 14
Governors 111
Grabs 22
Grating, Floor 7, 78
GRINDING
Attachments 31
Machines....24*, 32, 33, 60, 61
Spindles 55
Tools....6*, 45, 75, 107, 125
Wheels 75, 115*
Grooving 94
Guides, Band Saw....6, 26

HAMMERS 55, 64, 70
Handles 30, 49*, 87
Handling 12, 16, 19, 22, 24*, 34*, 39, 51*, 60*, 63, 66, 69, 70, 85, 88*, 90, 116*, 122
Hard Facing 123
Hardboard 83
Heads, Drill 63, 121
Heat Exchanging 11
Heat Treating 44, 82, 83, 99, 124*
HEATING
Elements....4, 5, 11, 24, 32, 36, 70*, 78*, 103*, 113, 120
Flame 34
High Frequency 83, 99
Liquid 41, 53, 54
Plates 26
Process 53, 55
Space....29, 36, 52*, 54, 80*, 124
HOISTS 38, 40, 45, 51, 65, 68, 95, 103, 105
Drives 80
Holders, Tool 59, 68
Honing 42*
Hoppers 9, 70
HOSE 8*, 14*, 103, 115, 119*, 122
Fittings 14, 34, 59, 97, 99, 103, 116
Metal 20, 24, 46, 71

INDICATORS, TEMPERATURE....78
Inks 16, 17
INSULATING, Electric....12*, 63*, 65, 88*, 103*, 106, 116, 127*
Thermal 17, 47*, 49*
Isolating, Vibration 12, 59*

(Continued Over)

FOR ROUTING to others in your plant interested in product information

- ☐ *Plant Operating, Mr.* .....
- ☐ *Production, Mr.* .....
- ☐ *Engineering, Mr.* .....
- ☐ *Product Design, Mr.* .....
- ☐ *Purchasing, Mr.* .....
- ☐ .....

JACKS 2, 7, 17, 39, 99
JOINTS, Pipe 20, 32, 127
Shaft 62
LABELS 5, 14*, 34, 40
Ladders 42*, 53, 56, 61*, 62, 82, 96
Lamps 6*, 88*, 116
Latches 20, 67*, 70
LATHES 64*, 86, 101, 109
Attachments 72*
Layout 16, 44*, 58, 66, 104
Lighting 6*, 56, 60, 88*, 116, 117*
Lights, Indicating 77
Loading 5, 12*, 12
Lockers 78
Locknuts 56, 104, 117*, 120, 123
Lockwashers 61, 80
LUBRICATING
Equipment....2*, 8, 52, 119, 126*
Materials 3, 4, 24*, 34, 73, 104*, 109*

MACHINERY 82
Magnetic Powders 44
Magnets 106, 112*, 128
Management 24*, 65*
MARKING, Machines 34*, 36*, 48, 50, 72, 78*, 101
Materials 5, 14*, 17, 34, 40, 108*
Service 21*
Tools....7, 19*, 52, 86, 88*, 106
Masking 39, 52, 62
Matrix Materials 38
Melting 10, 34, 83, 99
METALS 1*
Design Strengthened 8
Laminated 105
Parts 9, 16, 53*, 61*
Perforated 118
Powders 26*
Metal Treating 57*, 60
METERS, Electric 7, 41*, 58*, 66, 71, 107
Flow....46, 69*, 101*, 111, 128
Liquid 58, 60, 67, 123
Sound 52, 88*
Microfilm Service 47
Milling 7, 28, 54, 95
Mixing 42, 76, 96, 115
Models, Industrial 58, 66
Molybdenum 4
Monorail 6
MOTORS, Control 12, 26*, 89, 90*, 99, 127
Electric 1*, 26*, 30, 39*, 82, 90*
Pneumatic 20
Mowing 66, 123*, 125*

NAMEPLATES 59, 64, 98, 113
New Products 26*
Nibbling 34
Nickel Alloys 3
Nozzles....20, 23, 24, 27*, 34, 35
Numbering 72
Nuts 61, 86, 101
OIL CONDITIONING 37, 40
Oscillographs 30*
Ovens 55, 63

PACKAGING, Containers..90* 101*
Equipment....11, 20*, 51*, 58*, 71, 73*, 112, 118*, 122
Materials 26*, 37, 61, 75, 87, 90*, 97, 98, 110
Packings 31*, 47, 57, 81
Pails 70
PAINTING
Equipment 22, 36*, 52, 55*, 55, 90*
Materials 10*, 68, 74, 82, 85*, 111
Panelboards 44
Papers 33, 49
Pencils 3
Photographing 110*
Pins, Drive 122*
PIPE 19, 33, 114
Coils 4, 24, 41
Finned 54
Fittings 19, 20, 32, 57*, 57, 73, 127
Fittings, Jacketed 51
Jacketed 51
Plastic 74*
PLASTICS, Forming 62
Materials 28*, 75*, 83, 85, 90*, 92*, 92, 95, 106*, 117, 126*
Products 10, 13, 30, 43*, 60, 65*, 74*, 82, 87, 93, 97
PLATES, Floor 42, 81, 100*
Surface 104
Plating 11, 64*, 90*
Plugs, Magnetic 57
Plywood 120
Polishing....6, 16, 32*, 45, 92*
Powder Metal Parts 61*, 125
Power Units, Hydraulic....107
PRESSES, Attachments 37*
Hand 25
Hydraulic 35, 93, 112
Mechanical 27, 35*, 80, 108, 113*
Tools 90, 92*, 110
PRINTING, Equipment 5*, 34, 79, 92*, 121*, 126
Materials....9, 33, 34, 70*, 119
Processing 92*, 114*
Projecting 65
Protecting 3, 14, 15, 17, 21, 24, 26, 27, 33, 50, 56, 59, 62, 66*, 67, 68, 75*, 76, 79, 106, 111
Pulleys 3
Pulling 18, 35, 38, 40
Pulverizing 92*
PUMPS
Centrifugal 37, 41, 55*, 57, 69, 92*, 95*, 115, 121*
Hand 21, 30, 78, 99
Hydraulic 13, 30, 39*, 76, 78, 99, 107
Jacketed 51
Pneumatic 100, 110
Reciprocating 88
Rotary....8*, 14, 18, 42, 49, 126
Turbine 17, 108
Vacuum 107*
Punching 25, 55
Pyrometers 7, 18, 109

RACKS 19, 69, 73, 121
Ramps 122
Reaming 6, 92
Record Keeping 26, 47, 116
Recorder Pens 58
Recorders, Production 16
RECTIFYING 27, 46*, 87*, 88
Reducers, Speed 9, 32, 38, 43, 53, 85*, 86, 92*, 93, 94*, 99, 113
Reeling 66
Refractories 71
Refrigerating 64
REGISTER, MANUFACTURERS' 50*
Relays 3*, 36, 78, 105*, 114, 118*
Research 28*
Resistors 21, 45
Respirators 27
Rheostats 21, 45, 62*
RINGS, Metal 16, 53*
Piston 65
Retaining 69*
Riveting 79, 124
Rivets 23, 101
Rock Drilling 33*, 90
Roofs 28*, 80
Rooms, Shielded 85*
Rope 60*
Routing 31
Rubber Products....70, 74, 81, 94*

SAFETY 28*, 90*
Sanding 35, 37, 93*
SAWING
Attachments 32*, 123
Blades 93, 115*
Machines 15*, 27, 43, 46*, 79, 98, 107
Machine Parts 6, 26
Tools....25, 28, 40, 52, 53, 105*
Scaffolds 15, 25, 38*, 45*, 53*, 53, 79, 96, 98
Scales 8, 27, 111*, 112
Scraping 38
Screening 35
Screw Driving 9, 28, 45, 56
Screws 13, 74, 101, 113, 119
SEALING
Components....13, 16*, 82, 86, 87, 93, 94*, 111, 120*
Equipment 71*, 118*
Materials 10, 12, 31*, 47, 57, 58*, 77, 81, 87*, 96, 108
Separating 3, 4, 30*, 31*, 62*, 106, 126, 128
Shafts, Flexible 43
Shaping 31
Shearing 12, 33, 38*, 47, 49, 54, 81, 94*, 99, 113*, 116, 117
Sheaves 3, 94*
Shelving 92, 94*
Shields, Face 111
Shipping Containers 30, 30*, 64, 74*, 101*
SHOES 74
Shovels, Power 63
Shredding 57
Signaling 77
Signs 8, 11, 91
Skids 16, 34*, 90
SLEEVES, Slotted 68
Square Hole 18
Slitting 53, 116
Snow Plows 66
SOLDERING, Equipment 18, 46, 65*, 76*, 78, 83, 99
Materials 14*, 27*, 29*, 71, 115
Solenoids 5
Spraying....22, 23, 24, 35, 97*, 110
Spreading 114*
Sprinkler Plugs 105
Sprockets....3, 7, 74, 77*, 108
Stampings 6, 62*, 86, 120
STAPLING 96, 105, 127
Static Discharging 56
Steels 35*, 57
Storing 4, 13, 19, 20*, 55, 63, 69, 73, 85, 92, 94*, 121
Straightening 37*
Strainers 16*, 80
Strapping 11, 21, 112, 121
STRIPING 78*
Strippers, Ingot 51*,104
Stud Driving 40
Surplus 4
Sweeping 15, 26, 58
Switches 6, 13*, 17, 26, 89, 94*, 99*

TABLES 44
Tablets, Salt 50, 76
Tachometers 56
Tackers 96, 105
Tanks 13
Tapes 39, 61, 62, 75, 85, 88, 96, 103*, 106, 110
Tapping 29
Telephones 24, 46
TESTING, Electric 21, 58*, 71, 98, 104*, 106
Electronic....5, 13*, 71, 85*, 96*
Gas 60*, 124*
Hardness 96*
Noise 52
pH 7
Paint 96*
Performance 111*
Spring 75
Surface Roughness 76
Tension 41, 96*
Vibration 9*, 32, 35, 78
Viscosity 1*, 54*
Thermistors 10
Thermometers....23, 48*, 48, 51, 91
Thermostats 29*, 61, 63*, 101, 113
THREADING
Machines 29, 40, 69, 107
Tools 88, 103
Timing 3*, 8*, 15, 16, 30, 39, 54, 78, 91, 93*, 104*
Tires 91, 104, 109, 112
Torches 34
Track 15
Tractors 6, 35*, 66, 80
TRAILERS 66*, 80*, 121
Tramrail 18*, 79
Transfers, Ball 7
Traps....4, 22, 24, 80, 90, 119
Trolleys, Monorail....14, 30, 122*
TRUCKS
Attachments 45*, 52*, 97*, 109*, 123*
Hand 8, 16, 25*, 36, 38, 50, 52, 72*, 90, 103*
Hand Lift 88
Locks 74
Power 35*, 61, 91*
Power Lift....1*, 13, 23, 46, 47, 54*, 61, 65*, 70, 71*, 76*, 80*, 89, 94, 102*, 119*
Trailer 66*, 121
TUBES 19, 45*, 48, 102, 114
Finned 32
Fittings 116*, 119
Flexible 20, 24, 46, 71
Tumbling 17*, 38, 115
UNDERCARRIAGES 60, 84
Unions, Pipe 32

VALVES, Handles 49*
Jacketed 51
Line 5, 43*, 51, 55, 74, 85, 89*, 91*, 94, 96*, 98*, 106*, 107*, 109
Operating 18, 36, 37, 73, 81, 106, 114, 127
Power Operated 41, 44*, 72, 94, 96*
Regulating 45, 76, 83, 92, 96*, 124
Relief 18*
Repair Parts 12, 112
Ventilating 23, 27*, 31*, 34*, 36, 41, 42, 59*, 66, 81, 84, 89*, 94, 96, 97, 102*, 108, 109, 120, 124, 126, 128
Vibrating 81*, 86, 98*, 100
Vises....21, 48, 64, 85, 85, 98*, 114

WADDING 98
Washers 101, 120
Washroom Supplies 48
Water Proofing 25*, 68
Water Treating 27, 88
Weed Killing 31, 98*, 122*
Weighing 8, 27, 51*, 111*, 112, 121
WELDING, Arc 108
Curtains 3
Lens 75*
Materials 98*
Positioners 19, 83, 111
Resistance 20, 67, 92
Wheels 48, 67
Winches 18
Winding 116
Wire Cloth 35, 98*
Wire Parts 67, 86
WIRE ROPE 42*, 98*, 107*
Slings 25, 104*
Wood 66*
Wood Working 28, 46*, 56*, 101, 107, 115*
Wrenches 40*, 44*, 57*, 61, 98*, 110
X-RAY 13*

If you write maker identify as **IEN - 4820**

LUBRICATING . . Motor driven pump delivers grease or oil to fittings

Source: FARVAL CORP.
3293 E. 80th St., Cleveland 4, Ohio

Ask for Bulletin 39

Type **DC-20** is a new frequency controlled motor driven pump designed to apply with the company's Dualine metering fittings. It provides the same features of automatic centralized lubrication for individual machines that the larger Farval equipment supplies for multiple machine installations. It is intended to supplement rather than supplant the larger equipment.

An installation consists of two main supply lines, a Dualine measuring valve for each bearing and the discharge lines connections from the measuring valves to the bearings. The supply lines form closed loops from the pump and back again. The valve fittings can be inserted directly in the supply line loops or can be connected in parallel with the main lines through risers.

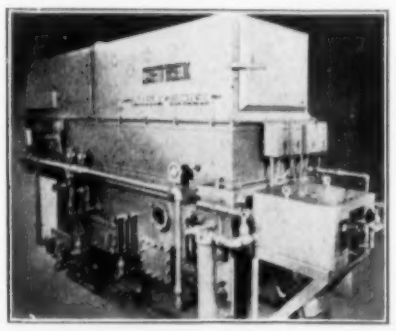
The pump directs lubricant flow in first one and then the other of the two main supply lines while the idle line is in relief back to the reservoir. Lubricant pressure, at the return end of either main supply line, automatically shifts the slide valve piston that is built into the base of the pump to the opposite end of its bore to direct the pump delivery into the other main supply.

Pressure control is located at the return ends of the main lines so the lubricant must pass through the entire installation and develop sufficient pressure to operate all of the valves before the slide valve will function to redirect the flow. Reservoir capacity ranges from 4½ to 12½ lb. of grease or from 2½ to 6½ qt. of oil.

If you write maker identify as **IEN - 4821**

CLEANING . . Ultrasonic degreaser for application on intricate work

Source: DETREX CORP.
14329 Woodrow Wilson, Detroit 32, Mich.



Built to order

Microscopic particles of dirt, grease, chips, soil, are removed almost instantly from intricate parts, close fitted assemblies, in passage through this new Soniclean machine. The work is immersed in trichlorethylene solvent and subjected to sound waves from a transducer powered by a Hypersonic generator. The generator and transducer are manufactured by Brush Electronics Co., previously described IEN-1024-50.

First unit of the complete equipment has been installed in the plant of an electric razor manufacturer. It carries work in trays on a conveyor, delivers the parts completely clean.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 4822**

This ball bearing screw jack is only 7 inches high—can lift 15 tons 2½ inches. It weighs 22 lbs.

Designed especially for those hard-to-get-at-spots too small for a big, heavy jack—the Duff-Norton "Shorty" has made friends in shops, mills, shipyards, and on construction jobs.

For complete specifications on the "Shorty" and other dependable Duff-Norton Journal Jacks, write the world's oldest and largest manufacturer of lifting jacks for Bulletin AD12 M, The Duff-Norton Manufacturing Company, P.O. Box 1889, Pittsburgh 30, Pa. Canadian plant—Toronto 6, Ontario.

DUFF-NORTON Jacks

"GIVING INDUSTRY A LIFT SINCE 1883"

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● In New Departure's Research Laboratory both production bearings and experimental designs are subjected to overloads and overspeeds, extreme heat and cold, day and night operation . . . packing years of use into a short period. Thirty years of this search and research has developed the best bearing types to fit every type of application. Keep your eye on the BALL to be sure of your BEARINGS!

NEW DEPARTURE • DIVISION OF GENERAL MOTORS • BRISTOL, CONNECTICUT
Also Makers of the Famous New Departure Coaster Brake

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POWER!

For powerful protection against fire, get Kidde carbon dioxide extinguishers. Just point the horn and pull the trigger. A rolling fog of CO_2 will smother the fire instantly.

Walter Kidde & Company, Inc.
536 Main St., Belleville 9, N. J.

Kidde

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A CROWNING ACHIEVEMENT...

...by EASY-FLO NO. 3

This is a rock drill bit. The diamond-studded strips around the top are brazed in place with EASY-FLO NO. 3. In action they take a steady diet of terrific shocks and jolts — convincing proof of the great strength plus resilience of joints made with the silver brazing alloy EASY-FLO NO. 3. Write for Bulletin 11-A.

NEW—EASY-FLO NO. 3 TRIMETAL

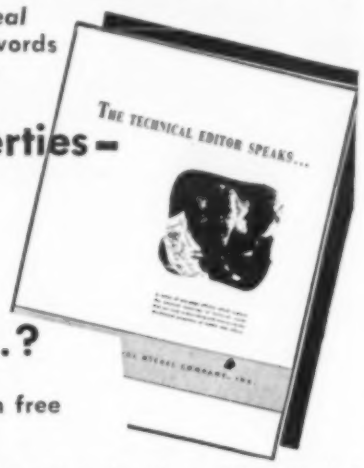
A coating of EASY-FLO NO. 3 on each side of a copper shim for brazing cemented carbides and other heavy duty applications requiring a "sandwich" type braze. Write for the EASY-FLO NO. 3 TRIMETAL folder today.

HANDY & HARMAN 82 Fulton St., New York 38, N. Y.
Distributors in Principal Cities. In Canada: Handy & Harman of Canada Ltd., Toronto

If you write maker identify as IEN - 4826

Do you know the real meaning of these words and phrases about metals . . .

Tensile Properties – Modulus of Elasticity – Ductility – Magnetism . . . ?



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THE INTERNATIONAL NICKEL COMPANY, INC.
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Neoprene-jacketed Securityflex takes abuse, won't kink, flexes indefinitely

Securityflex* is available as a heavy duty portable cord of one to six conductors, or as a lightweight cord for small tools and lamps. Tough, dense neoprene jacket resists flame, heat, sunlight, aging, ozone, oils, solvents, chemicals and acids . . . protects against cutting, abrasion and crushing. It's so rugged it's used on mine drills! Securityflex delivers safe, adequate power . . . stands up under the toughest conditions. *Anaconda Wire & Cable Company, 25 Broadway, New York 4, N. Y.*

*Trademark

ANACONDA today's headquarters for wire and cable

If you write maker identify as IEN - 4828

Mr. Maintenance Man...

HERE IS YOUR ANSWER TO COMPLETE PLANT STANDARDIZATION OF POWER TRANSMISSION EQUIPMENT

BROWNING has added a complete line of Roller Chain Sprockets with Malleable Split Taper Compression Bushings.

NOW you have the same simplified bushing system for . . .

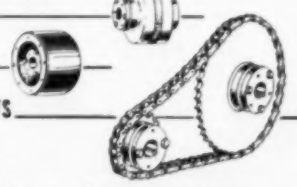
SINGLE GROOVE SHEAVES

MULTIPLE GROOVE SHEAVES

RIGID COUPLINGS

FLEXIBLE COUPLINGS

PAPER PULLEYS



and now ROLLER CHAIN SPROCKETS

JUST THINK... One Simplified Bushing System throughout your entire plant

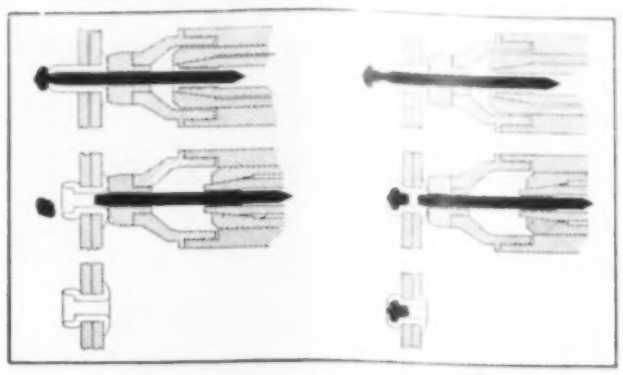
Only your Browning Distributor offers this service...there is one near you. **Write for Catalog GC101.**

BROWNING MANUFACTURING COMPANY MAYSVILLE · · · KENTUCKY

If you write maker identify as IEN - 4829

FASTENING . . Rivet and pull mandrel require access to only one work face

Source: J. C. RHODES & CO.
121-25 Front St., New Bedford, Mass.



Illustrated data in Pop Rivet Catalog

A worker, standing on one side of a sheet metal structure, inserts this new "Pop" rivet so its initially formed head lies against the work face and its nail-like mandrel points toward him. He grips the mandrel stem with a hand or pneumatic tool that bears against the rivet head to pull the mandrel head against the rear of the rivet. This action upsets and heads the rivet tightly aginst the reverse face of the structure.

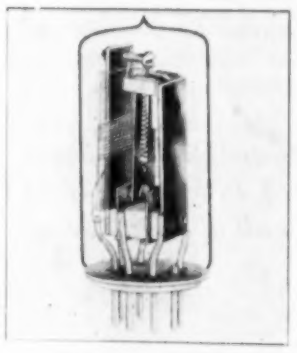
The mandrel is necked just under its head, or a little distance along the stem toward the point. In one case the head flies off to leave the rivet open through its center. In the other case the head and the unnecked portion of the stem remain tightly in the rivet to seal it. Caps are available.

The rivet is new on the United States market. It has been in production for some years by the company's British affiliate. It is made of formed Monel Metal and of aluminum strip stock in sizes from 7/64 to 3/16 inch. Grip length for the Monel Metal unit is 0.190 to 0.750 inch. List price is $4.73 to $22.84 per thousand. The aluminum rivet ranges from 0.010 to 0.510 in. in grip length. It lists at $3.45 to $9.58 per thousand.

If you write maker identify as IEN - 4830

TIMING . . Delay relay for specified 3 to 180 second interval

Source: EUREKA TELEVISION & TUBE CORP.
67-71 Fifth Ave., Hawthorne, N. J.



Chatter free action

Snapper is a new time delay relay with single-pole double-throw contacts rating 6.3 to 115 volts on ac. or dc. or other special voltage. Power rating is maximum at 3 watts. The contacts will carry 6 amperes. Assembly is in a metal gas filled envelope. The relay is suited for operation in an ambient temperature range between minus 60 and plus 80 deg. C.

A heater coil is the actuating means. It can be specified for any one delay interval between 5 and 180 seconds. Tubes measure 1¾ in. in envelope height, ¾ and 1¼ in. in diameter. Three base pin designs are 7, 8 and 9. The sample quantities, from 1 to 49, list at $10.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 4831

SAFETY EQUIPMENT FOR ALL INDUSTRIES

IPCO WELDING CURTAINS

A SOUND INVESTMENT FOR PROTECTION OF PERSONNEL

Workers and passers-by are protected from harmful rays given off by welding operations. Also serve as a protective shield against flying chips and scale. Made of special flameproof and waterproof canvas —or asbestos—complete with eyelets for suspending on rod or pipe support.

WRITE FOR BULLETIN NO. 43

IPCO *Safety Equipment for all Industries*

INDUSTRIAL PRODUCTS COMPANY
2801 N. FOURTH STREET • PHILADELPHIA 33, PA.

If you write maker identify as IEN - 4832

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"We heartily recommend LUBRIPLATE LUBRICANTS"

so says Porter-Cable Machine Co., a leading manufacturer of portable tools. They consider effective lubrication so important to good tool operation, they have arranged to have a LUBRIPLATE Lubricant packed in tubes under their label and sell the tubes through their dealers.

1. LUBRIPLATE reduces friction and wear
2. LUBRIPLATE prevents rust and corrosion
3. LUBRIPLATE is economical to use

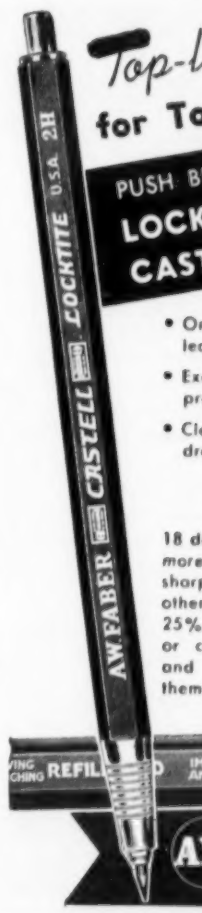
Write today for case histories of savings made through the use of LUBRIPLATE in your industry.

LUBRIPLATE DIVISION
Fiske Brothers Refining Co.
Newark 5, N.J.—Toledo 5, Ohio

The Different LUBRICANT!

DEALERS EVERYWHERE, consult your Classified Telephone Book

If you write maker identify as IEN - 4833



Top-liner for Top Designers

PUSH BUTTON CASTELL LOCKTITE HOLDER AND CASTELL IMPORTED LEAD

- One-hand clutch operation avoids touching lead, smearing fingers or drawing.
- Exclusive collet holds lead in bulldog grip, prevents it slipping back into holder.
- Clean, balanced, efficient for every type of drawing, sketching, rendering, coloring.

CASTELL Imported Lead

18 degrees, 7B to 9H—gives *more* prints — cleaner and sharper prints — than any other drawing lead. Lasts 25% to 33⅓% longer. Black or colored. Your Drawing and Art Supply Dealer has them.

CASTELL
the drawing pencil with the Master Degrees

A.W. FABER-CASTELL
PENCIL COMPANY, INC., NEWARK, N. J.

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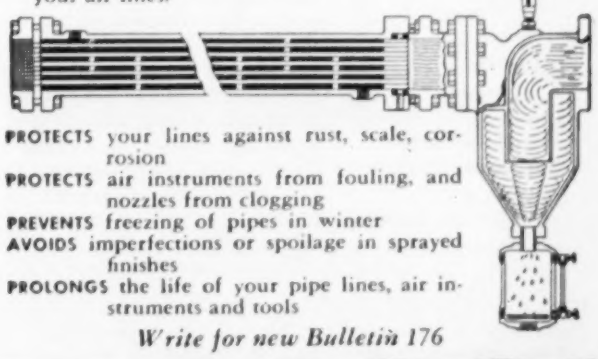
You Can be Sure of Clean Dry Air for your Compressed Air Tools

3500 Gallons

1 YEAR'S water extraction from air lines equipped with Adams Aftercooler and Cyclone Separator.

with **ADAMS** Aftercooler and Cyclone Separator

- Reducing compressed air temperature to within 10° of the cooling water, Adams Equipment condenses and removes destructive water and oil vapors from your air lines.



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PROTECTS air instruments from fouling, and nozzles from clogging
PREVENTS freezing of pipes in winter
AVOIDS imperfections or spoilage in sprayed finishes
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Write for new Bulletin 176

R.P. ADAMS CO., INC. 219 E. PARK DRIVE BUFFALO 17, N. Y.

If you write maker identify as IEN - 4835

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A LITTLE DOES A LOT

You may have heard about a highly successful solid-film lubricant which is giving remarkable results in the shop and in the field.

In one 40-page booklet we have collected 154 detailed case-histories describing how difficult lubrication problems have been overcome by molybdenum sulfide. If you wish to be up to date about this solid-film lubricant, write for a free copy now.

THE LUBRICANT OF MANY USES

Moly-sulfide
A LITTLE DOES A LOT
SEND FOR THIS FREE BOOKLET TODAY

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Industrial Equipment News

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VOL. 21 MAY, 1953 NO. 5

1933-1953

Twenty years of specialized product information service originated by Industrial Equipment News

240

Monthly issues that started with 16 pages and an "invitation list" to 30,000 plant operating men active in all of the divisions of industry

20,480

Total pages of editorial new product reporting and product advertising in a newspaper format also originated by Industrial Equipment News

77,280

Editorial descriptions of new products and new literature published for 13,000 manufacturers

130,450

Ninth page units of product advertising by manufacturers who use IEN to maintain contact with its readers and so support the service

3,164,800

Our estimate of your inquiries, through IEN and direct, for information looking toward purchase of hundreds of "things to do things with"

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Total pounds of paper printed and shipped to a reader list now totaling 68,000, primarily on "verified request", also originated by IEN

1953-1973

Looking forward to another twenty years of opportunity to bring the product news to the best assembly of "request readers" any industrial publication ever had

W. E. Irish.

If you write maker identify as IEN - 4838

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SUCCESSOR TO "JIFFY" CABINETS
Contents visible! Lifetime-guaranteed, crystal-clear plastic drawers, Strong all-steel cabinet has individual drawer guides. Baked-on silver-gray hammer finish. Sent complete with index cards, removable lengthwise and crosswise drawer dividers, rubber feet.
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12½" wide
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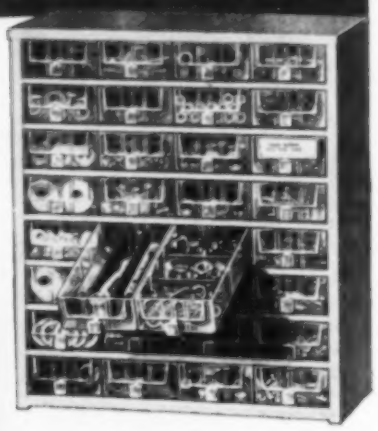

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J-24	24 drawer	(72 compartments)	10.95
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AKRON 9, OHIO

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SEND FOR FREE DESCRIPTIVE FOLDER

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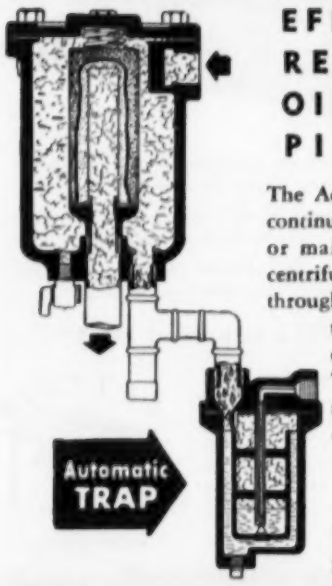
FOR COMPRESSED AIR



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The Adams *Poro-Stone Filter* gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation.

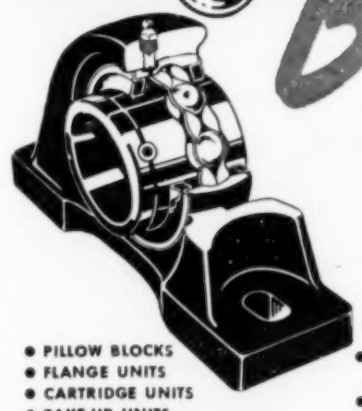
Write for complete data Bulletin 176

R. P. ADAMS CO., Inc.
219 E. Park Drive, Buffalo 17, N. Y.

ADAMS *Poro-Stone* AIR FILTER

If you write maker identify as IEN - 4839

SEALMASTER
BALL BEARING UNITS



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Variable Speed Reducers
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Handy stand magnifier with universal adjustments. Overall height: 6". Has powerful, clear magnifying lens. 1.99

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Has 3-1/2 GPM capacity at 600 PSI. Motor is 1½ HP, 24V, D.C. Will operate on either 12 or 32V, DC current. Has built-in relief valve adj. to 1500 PSI. This unit ideal for hyd. lifts, portable loaders, etc. 19.50

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A time saver for precision checking. Magnetic base fits curved or flat surface. Has 45-50 lb. pull. Stainless steel 6½" rod mounted in ball socket permits universal settings . . 3.95
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Heavy duty, G.E. Gear Head motor. 2 HP, 24V. DC, 125 amp., reversible motor drives a reduction gear unit giving 36 to 1 ratio at take-off. Also will operate on 6 or 12 volts.
36 to 1 G.E. (306 shaft RPM)
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Also Mfrs. of Lovejoy Universal Joints and Lovejoy Universal Couplings

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Write for Bulletin No. 948 and full details.

STEPHEN S-ADAMSON MFG. CO.

TELLEVEL—Bin Level Controls · Car Loaders · Variable Speed Reducers · Car Pullers · SealMaster Ball Bearings · Winches · Saco Speed Reducers

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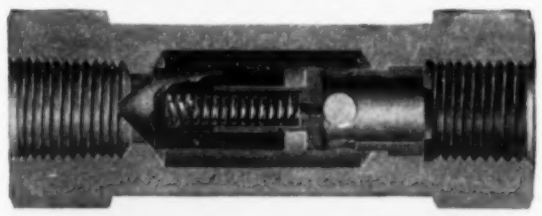

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  No welds or brazes to crack or fail — Available in ⅜", ½", ¾", 1" NPT line sizes
- **NYLON POPPET**
  Assures leak proof trouble-free service
- **LIGHT WEIGHT**
  Aluminum body and nylon poppet reduce overall weight and increase ease of handling during installation
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  Minimum pressure loss thru valve at rated flow

Write for illustrated circular C

WATERMAN ENGINEERING Company

725 CUSTER AVENUE
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Source: EASTMAN KODAK CO.
341-45 State St., Rochester 4, N. Y.

Three prints in 60 seconds

In 50 **seconds** one copy measuring to 8½ by 11 in. can be produced from a letter, report, card, chart, magazine page in this new Verifax photocopy equipment. In 60 seconds, three copies can be made from a single processed sheet of sensitized matrix paper. The equipment includes an exposure section with a hinged cover and a timer at the top of the housing, a light tight compartment that holds 100 sheets of the matrix paper, a shelf below the compartment for 100 sheets of print paper and the developer tank which also forms the base of the unit.

The operator draws out a sheet of matrix paper and puts it in face contact with the work to be copied and then into the exposer compartment under the hinged lid. The timer determines the exposure interval, usually between 10 and 15 seconds. Then the matrix is removed from the original and is "floated" into the developer fluid in the base.

As soon as it has been wetted, a sheet of the print paper and the matrix are withdrawn together ready to use. If additional copies are needed, the matrix is returned to the developer and drawn out again with another sheet of the print paper.

This paper is unsensitized. It is recommended for use in the process, although the company has made tests and proved satisfactory results with a number of other commercial papers. Final operation is to trim a 2-in. tab from the end of the print paper which has been left this much longer than the 11 in. to assist in handling.

List price for the machine is $240. The matrix paper lists at $12.10 per hundred sheets. The print paper lists at $3.25 per hundred. The developer is $2.50 for a carton of five charges.

If you write maker identify as IEN - 4845

BOY DUFF . . Miniature model makes quick start in printing business

Source: NORMA-ROBERT DUFF ASSOCIATES
130 Glenbrook Parkway, Englewood, N. J.

New boy model, weighing in at 5 lb., 8¾ oz., was presented by Norma Hendricks Duff to Robert C. Duff on March 24th at 7:58 PM. Noise meters on the scene registered the young man's lung action at 76.98 decibels, indicating plenty of vim and vigor.

Model put his foot down, see illustration, in his initial act to indicate his entry into the printing and publishing business in which he can count his Hendricks ancestry back to the fifth generation. We in Thomas Publishing Company say hello and good luck.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 4846

TROMBETTA SOLENOID CORP.

331 N. MILWAUKEE ST. • MILWAUKEE 2, WIS.

SB-300 LINE OF BRAKES

Sizes 2½" dia. x 1½" face to 72" dia. x 14" face, continuous rating range from 3 ft.-lbs. to 24,000 ft.-lbs.

8 SPECIAL FEATURES

(1) Operated by long stroke, high power large capacity solenoids. (2) Only 50% of solenoid stroke is used to release the brake. The extra 50% is reserve to take care of lining wear. (3) They can be used for stopping as well as for holding loaded motors. (4) In double solenoid type, one solenoid operates the brake and the other is a spare assuring uninterrupted operation. (5) They are available for all voltages and frequencies alternating current. (6) Also for all voltages direct current series or shunt connections. (7) In shunt operation no series resistances, no discharging resistances are necessary. (8) They are available with oil immersed and explosion proof solenoids.

NINE LINES OF SOLENOIDS, RECIPROMOTORS AND SEMOTORS

See McGraw Hill's Prefiled Electrical Catalogs. Write for Additional Information.

If you write maker identify as IEN - 4847

For heating water, oils, tars, greases, plating baths, pickling solutions, etc.

"Packaged" Chromalox Electric Heaters, combining heater and thermostat, are the economical, efficient solution to many heating problems. Uses include: heating tanks, drums and process kettles; melting greases, asphalts and similar viscous fluids; heating degreasing, pickling and plating baths. Available with sheaths of copper or steel, and with lead for use in corrosive solutions. Types, sizes and ratings to meet your needs.

For *all* the facts get CATALOG 50

It gives full data on thousands of time, money and labor-saving Chromalox Units.

IB-14

Industrial Div., EDWIN L. WEIGAND CO., 7505 Thomas Blvd., Pittsburgh 8, Pa.
See Chromalox Electric Heaters Advertisement, Page 11

CHROMALOX

ELECTRIC HEAT FOR MODERN INDUSTRY

If you write maker identify as IEN - 4848

FAST... POSITIVE IDENTIFICATION

For a few cents per pipe, you can equip your entire plant with Brady QUIK-LABEL Pipe Markers. You can get a uniform system of pipe identification based on A.S.A. Standard A13. Names of materials printed in large black letters on correct A.S.A. background colors — no hand stenciling, painting, or hard to remember codes. Anyone who can read can tell at a glance the pipe contents and direction of flow. Over 235 different markers and direction arrows in stock. Specials made to order.

Brady QUIK-LABELS stick without moistening—applied in a jiffy, Silicone Plastic treated to resist dirt, grime, moisture—for indoor or outdoor service.

Brady Pipe Markers leave no room for doubt . . . or TRAGEDY.

WRITE FOR Free SAMPLES AND USEFUL CATALOG

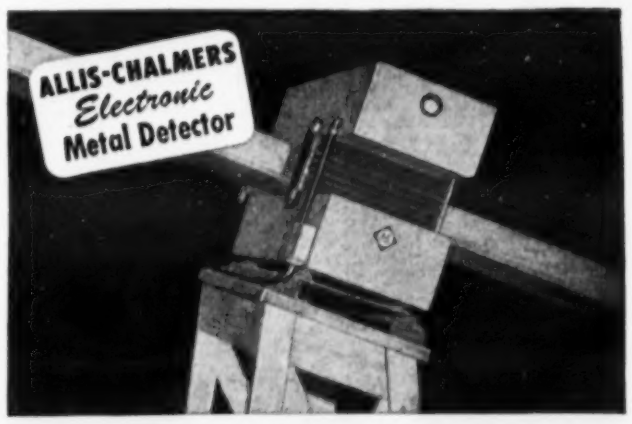
DISTRIBUTORS IN OVER 125 PRINCIPAL CITIES

MANUFACTURERS OF SELF-STICKING PRODUCTS

W. H. BRADY COMPANY

734 W. GLENDALE AVE., MILWAUKEE 12, WIS.

If you write maker identify as IEN - 4849



ARE YOU SURE IT'S PURE?

CAN YOU BE SURE no metal particles are getting into your packaged food? Magnets can't stop lead or brass or aluminum. The answer is, you *can't* be sure — without an Electronic Metal Detector. There's no other practical way!

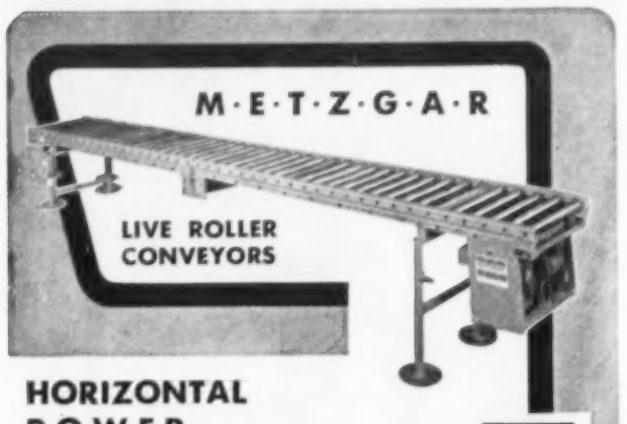
Best of all, Allis-Chalmers Electronic Metal Detectors fit production set-ups. For example, conveyor belts from packaging machines can carry packages through the aperture of the detector at 15 to 600 fpm. Unit compares in upkeep and operating cost with a household radio. Latest design minimizes maintenance.

Call your nearby Allis-Chalmers Office for complete information, or write Allis-Chalmers, Milwaukee 1, Wisconsin.

A-3711

ALLIS-CHALMERS

If you write maker identify as IEN - 4850



HORIZONTAL POWER . . .

. . . where Belt Surface Conveyors can't stand abuse of heavy metals, sharp corners or rough edges, Metzgar "Live Roller" units provide an all-metal, powered bearing surface. May be used as power booster in gravity line. Work can be slowed or held without stopping machine.

4 STOCK SIZES
11½" - 15"
18" - 24"
WIDTHS

Furnished portable or permanent mounted. Choice of one to five rollers per foot. Lengths to suit. Ball bearing throughout. Gearmotor AC or DC drive.

ASK FOR FOLDER NO. 1249

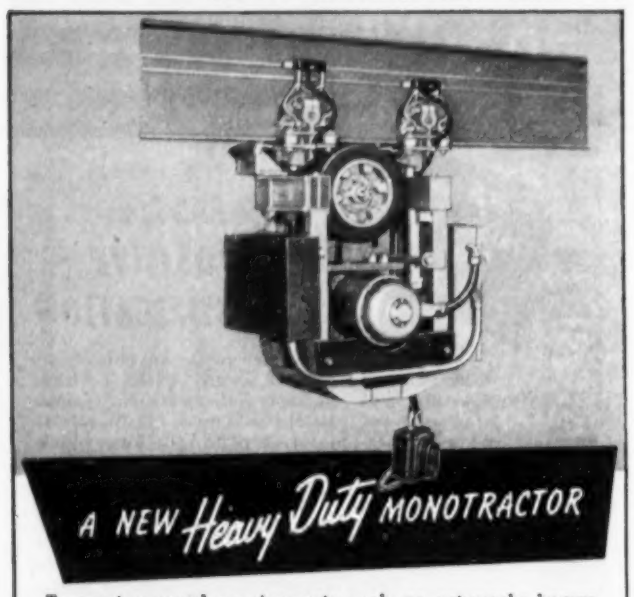
METZGAR CO.

MFGRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES • REEL DOLLIES.

417 Douglas, N. W.

GRAND RAPIDS 4, MICH.

If you write maker identify as IEN - 4851



To meet unusual requirements such as extremely heavy grades, speed or duty-cycle, this MonoTractor Drive Unit offers a wide variation of control motor applications including fluid drive; adjustable spring loaded drive suspension, heavy duty 4" x 12" rubber drive wheel and extremely compact fabricated frame construction. It can be applied for propulsion of 5-ton loads on electric hoist or other carriers operating on MonoRail track having a smooth bottom flange.

SEND FOR BULLETIN AD-1

THE AMERICAN MONORAIL COMPANY

13111 Athens Avenue • Cleveland 7, Ohio

If you write maker identify as IEN - 4852

Speeds CHAMFERING, POINTING, FACING, REAMING OPERATIONS

EXCLUSIVE FEATURES

OF PINES END-FINISHER SAVES TIME ON TUBE, PIPE, BAR JOBS.

At Kold-Hold Mfg. Co., two Pines Air-Operated Machines with single foot control speed tube deburring and facing operations. One operator produces 1200 tube ends per hour.

Pines Portable End-Finisher is especially designed for fast, accurate work. Small and compact, its exclusive operating features save time. Forward travel of operating lever clamps and feeds work to rotating cutters in one pass. Operator always has one hand free for stock handling. Equipped with quick, interchangeable tool holders, chuck inserts, 8-speed sheave (760 to 3920 rpm), sturdy spindle, grease-sealed precision bearings. Unit illustrated handles stock diameters up to 2". Maximum feed stroke is 1¼". Automatic air-operated units for higher production work and larger sizes up to 5" capacity are also available.

Write for Free Bulletin

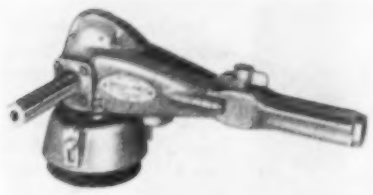
▲Write today for more facts. Learn how these machines are built to save time on a wide range of work.

PINES ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery
630 WALNUT • AURORA, ILLINOIS

If you write maker identify as IEN - 4853

GRINDING . . Pneumatic tool, angle design, drives 5 in. cup wheel

Source: INGERSOLL-RAND CO.
746 Morris Ave., Phillipsburg, N. J.



No gears

Pneumatic motor is mounted directly to the spindle of this new Size-2FA angle grinder for operation at 6,000 rpm. on 90-lb. air pressure. Air inlet is controlled by a thumb lever on the main handle. A side handle assists the operator in holding the tool in position. This handle can be specified at 90 deg. with its base or at a 30 deg. angle to get into corners. Mounting plates are provided on both sides of the head so the handle can be set for right or left hand workers.

The motor is muffled with exhaust deflected away from the operator. Rotating shafts ride on ball bearings. Overall length is 15¼ inches. Weight, without the guard, is 10 pounds.

A sanding pad can be applied in place of the cup wheel. This pad measures 7 in. in diameter. Hose connection is ½ inch. A special machine can be supplied for operation at 8,000 rpm. Each unit is equipped with a built-in lubricator holding a quantity of oil.

If you write maker identify as IEN - 4854

ADHESIVE . . Resin dispersion in water for use on porous materials

Source: PAISLEY PRODUCTS INC.
1772 Canalport Ave., Chicago 16, Ill.

Five ounce jars to bulk amounts

Wood Glu trade names a new colloidal water dispersion of polyvinyl acetate copolymer resin to bond products made of wood, paper-board, fabrics, leather. The milk white fluid dries to a non-staining translucent film possessing high shear strength. The dry film is odorless, water resistant, irreversible. It still can be used after it has been thawed after freezing.

If you write maker identify as IEN - 4855

LIGHTING . . Double filament lamp for flashlight, flood or spot beam

Source: GENERAL ELECTRIC CO.
1 Nela Park, Cleveland 12, Ohio

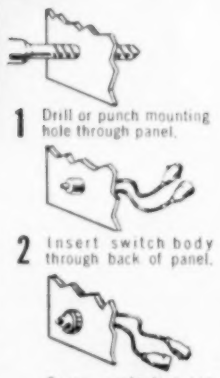
27 cents plus tax

Two filaments are in this new flashlight lamp. One is in the form of a single loop of tungsten wire for a broad flood light. The other is a concentrated coil for a narrow beam. They can be connected selectively to the flashlight battery by operating a push button on the battery housing. The lamp is known as Type PR-14. It measures a little under ½ in. in diameter and is about 1¼ in. in length. It is rated at 2.4 volts and ½ ampere.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 4856

Easy as ..ONE..TWO..THREE



...to install this waterproof push-button switch!

Here's the ideal switch for low current use! It's quickly installed . . . works perfectly under water, or from 65° below zero to 165° above . . . and withstands salt spray, shock and vibration. Mechanism is permanently encased in a special molded rubber compound with waterproof ordnance-type leads vulcanized to the case, connectors waterproof when required. Continuous rating of 10 amps. at 15 or 30 volts D.C. or 125 volts A.C. Single throw, one circuit, normally "open." Part of our extensive *standard* line of waterproof switches. We also offer complete design service on "specials." Send problem details for full information.

See how these switches are made in our Booth No. 218 —1953 Electrical Exposition, Detroit

Riverside MANUFACTURING AND ELECTRICAL SUPPLY CO.

10215 MICHIGAN AVENUE • DEARBORN, MICHIGAN • PHONE Tiffany 6-6800

WIRING HARNESSES AND ASSEMBLIES • CORD SETS • HEATER AND EXTENSION CORDS • ELECTRICAL SWITCHES • RELAYS • MOLDED RUBBER PRODUCTS

If you write maker identify as IEN - 4857

For 30 Years—EXPERTS AT STAMPINGS IN SMALL LOTS SHORT RUNS

Specializing in low-cost tools, close tolerances, best deliveries.

DAYTON ROGERS *Manufacturing Company*

MINNEAPOLIS 7, MINN.

If you write maker identify as IEN - 4858

Cut Polishing Time Improve Surface Quality

with "LINDE" FINE ALUMINA POWDERS

Obtain superior finishes, free from microscopic pits and scratches in a fraction of the usual polishing time. Use less abrasive and use it directly without levigation and other wasteful preparatory steps. They can also be compounded with waxes and used in stick form.

LINDE Fine Alumina Powders are characterized by ultra-fine, uniform particle size, high purity, and swift polishing action. They have gained wide-spread acceptance in polishing materials ranging from metallographic specimens to gemstones and noble metals.

Call or write any LINDE office and we will be glad to discuss your particular polishing applications.

	Type A	Type B
Chemical Composition	Alpha Al_2O_3	Gamma Al_2O_3
Particle Size (approximate)	0.3 Microns	Less than 0.1 Microns
Hardness (Moh's) (Equivalent to crystalline material)	9	8
Crystalline Structure	Hexagonal	Cubic

The term "Linde" is a trade-mark of Union Carbide and Carbon Corporation.

LINDE AIR PRODUCTS COMPANY
A DIVISION OF UNION CARBIDE AND CARBON CORPORATION
30 East 42nd Street, New York 17, N. Y. UCC Offices in Other Principal Cities
In Canada: DOMINION OXYGEN COMPANY, LIMITED, Toronto

MORE SPEED MORE SUPPORT

PADDOCK BAND-SAW GUIDE

(MODEL 20)

For Greater Blade-Support—Friction-Free

The V-shaped groove in the thrust wheel holds the back of the blade, while the two front wheels give support to the sides of the blade, insuring proper support under all conditions.

MODEL No. 20 is designed to work above or below the saw table. Gives greater ease and better adjustment for the thrust wheels for blades ⅛ to 1" wide. Saves blades — reduces material waste.

Every wheel is the same size and interchangeable to any position on the guide. Provides the greatest possible support to the saw blade.

When Writing for Information, give size and make of machine on which guides will be installed.

PADDOCK TOOL CO.
Guide Makers Since 1920
1418 Walnut Street • Kansas City 6, Mo.

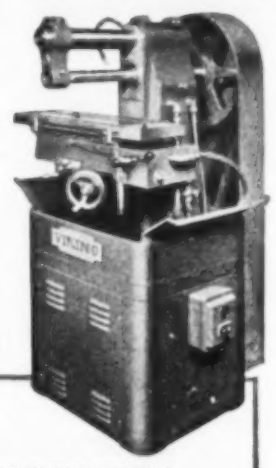
Paddock BALL-BEARING BAND SAW GUIDES

If you write maker identify as IEN - 4859

The Versatile VIKING Hydraulic SPEED-MILL

For conventional and climb milling

IDEALLY SUITED FOR SECONDARY SCREW MACHINE WORK



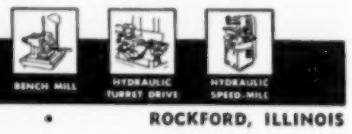
- INFINITE VARIABLE SPEED WITH DIAL-CONTROLLED DRIVE
- AUTOMATIC HYDRAULIC CYCLING
- OVERSIZE DESIGN AND CONSTRUCTION
- HEAVY FLYWHEEL DESIGN GIVES SMOOTHER DRIVE, BETTER FINISHES
- ATTACHMENTS FOR VERTICAL MILLING
- QUICK SET-UP, EASY OPERATION

The new improved Viking Speed-Mill, ideal for secondary operation work in screw machine shops, is the answer to many light, production milling problems. With the Viking, small, light pieces requiring multiple cuts, good finishes, and close limits can be machined quickly, accurately, and economically. Set-ups are fast, operation is easy, even with relatively untrained operators. Automatic hydraulic cycling and infinite spindle speed variations assure higher production efficiency and longer cutter life.

BRIEF SPEC'S: 7-5/8" x 24-1/4" table; Cutting lengths up to 9"; transverse movement, 2-3/4"; vertical adjustment, 10"; 2" dia. spindle; variable speeds 50 to 3600 r.p.m. Accommodates cutters up to 6" diameter.

Emergency delivery in less than 30 days. For complete information write—

VIKING *Industries*

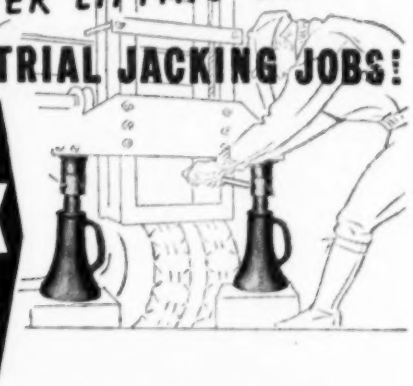


220 MONTAGUE STREET • ROCKFORD, ILLINOIS

If you write maker identify as IEN - 4860

88% EASIER LIFTING ON INDUSTRIAL JACKING JOBS!

WITH **SIMPLEX** HEAVY DUTY SCREW JACKS



An entirely new principle on Simplex Screw Jacks cuts friction 88%—gives you faster, easier lifting. Concave inner surface of non-slip cap rests on large chrome-moly steel ball in hard steel ball-seat. Can't flatten under load. Cap has 9 degree self-leveling float—won't slip out under load.

Other features make these Simplex jacks safer on heavy-duty jobs. Tough, malleable iron housing. Broad malleable iron base for stability. Safety peephole in base. Color indicates jack capacity. High carbon steel bars 40% stronger than ordinary bars.

21 models with 4-way head—10 models with ratchet head. Capacities from 10 to 24 tons. Ask for new illustrated bulletin: Industrial 48.

Simplex LEVER • SCREW • HYDRAULIC Jacks

TEMPLETON, KENLY & CO.

1012 South Central Avenue, Chicago, Illinois

If you write maker identify as IEN - 4861

New! Marking Tools Catalog

Write for your copy today!

Now! A complete catalog of over a hundred Safety Marking Tools, concisely described for easy selection of just the right tool for every marking purpose. If you mark your parts or products, you can't afford to be without this new catalog. Request on your letterhead, please.

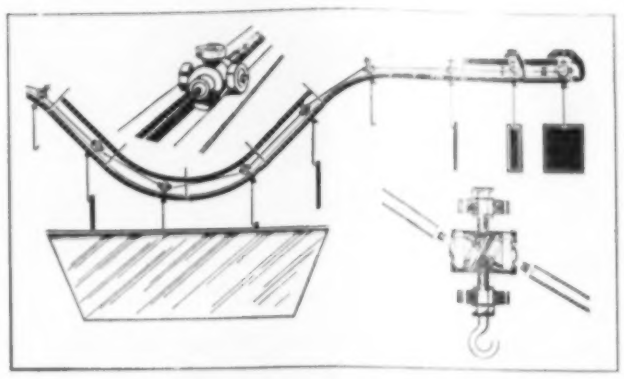
Mecco SAFETY MARKING TOOLS — M.E.CUNNINGHAM CO.

1039 CHATEAU STREET, PITTSBURGH 33, PA.

If you write maker identify as IEN - 4862

CONVEYING . . Load trolleys ride in closed loop with ball end rods

Source: LANDAHL CONVEYOR CO.
P. O. Box 1085-A, Columbus, Ohio



Illustrated details in catalog

Work is suspended from the load trolleys of this Chainless overhead conveyor on which the company has recently acquired patent rights from Taylor and Gaskin, Inc., its previous manufacturer. The trolleys ride a track made of standard angle iron for movement horizontally, in straight runs or around curves, on inclines both down and up, in a closed loop.

Two wheels, of the four on each trolley, carry the vertical load. Two additional wheels, on vertical spindles, bear against the track legs and angles placed above the track for horizontal curves. Return from movement downward around a vertical curve, to an upward section is restrained by angles placed above the horizontal wheels.

The trolleys are equipped with sockets and balls held in place by a compression spring to take connecting rods, normally 24 in. in length. Other rods are stocked in 18 and 30-in. lengths. Curve radius is minimum at the pitch distance between the trolleys.

Trolley movement along the track is by means of a motor driven chain assembly that mounts on the track and carries hinged pusher fingers. These fingers float into position back of the trolleys.

The conveyor is available in several sizes for various loads. The smallest unit, for light work, will carry 100 lb. per trolley with a line pull of 750 pounds. The conveyor track is supported with C-type brackets at normal 5-ft. spacing. Weight of the light duty unit is about 2½ lb. per foot. Each ball-bearing trolley is packed with grease at the factory so lubrication is not a factor.

If you write maker identify as IEN - 4863

FILTERING . . Porous plastic discs with 15-micron pores and solid rims

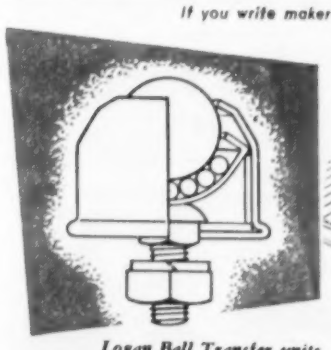
Source: POROUS PLASTIC FILTER CO.
28-32 Sea Cliff Ave., Glen Cove, N. Y.

Chemically inert

Porous Kel-F plastic, surrounded by a rim of the same material in solid form, is available in discs to 12 in. in diameter and thickness of $\frac{1}{16}$ and ⅛ in. The plastic is immune to attack by strong acids, caustics, oxidizing agents, common organic solvents. It can be employed at temperatures to 300 deg. F. It has ultimate tensile strength of 900 lb. per sq. in. and a modulus of elasticity of 1,800 lb. per square inch. Flow capacity is to 500 cfm. of air per sq. ft. of surface at 8-lb. differential and to 1,110 gpm. of water at 10-lb. differential.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 4864



Logan Ball Transfer units consist of a large steel ball which rotates on a bed of small balls contained in a hardened steel cup.

BALL TRANSFERS

Logan Ball Transfers are handling equipment, designed primarily for use in transferring at right angles or where it is desired to rotate packages without lifting. Can be adapted to other applications. You can buy separate ball assemblies from stock or complete tables made-to-order.

Logan offers Ball Transfer units in several different sizes.

Further information on request.

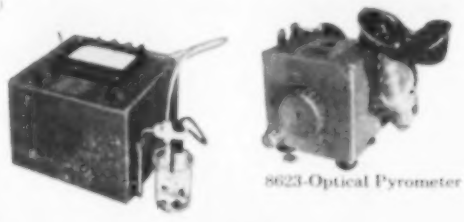
Ball Pedestal units also available for handling sheets and plates.

Logan Conveyors

LOGAN CO., 276 CABEL ST., LOUISVILLE, KY.

If you write maker identify as IEN - 4865

Ind. Ad. No. E 0600(c)



7064-pH Indicator

8623-Optical Pyrometer

8657-C Portable Millivolt Indicator

FOR **"on-the-spot" checking...**

INVESTIGATE THESE WIDELY-USED TEST SETS

High on any list of "Musts" for making spot-checks of production processes and equipment are these L&N Test Sets. Highly versatile, they combine the portability, ruggedness and simplicity needed for plant use, with the accuracy and flexibility necessary for the laboratory.

Just a few of the more than 20 useful L&N instruments of a portable type are pictured above. For complete information, contact our nearest office or write 4905 Stenton Ave., Phila., Penna.

LEEDS NORTHRUP
instruments • automatic controls • furnaces

If you write maker identify as IEN - 4866

HERE'S A "GOLD MINE" OF USEFUL INFORMATION on Roller Chains and Sprockets

Our new Baldwin-Rex Roller Chain and Sprockets catalog contains a wealth of useful information, complete specifications and prices on our complete line of stock roller chains and sprockets, examples of drive selection, how to select and order sprockets, maintenance information, flexible couplings and much, much more . . . 56 pages in all.

Everyone who uses roller chains or has a power transmission problem should have this book. *Send for free copy today.*

BALDWIN-REX ROLLER CHAINS

Chain Belt Company 53-413
Baldwin-Duckworth Division
358 Plainfield St., Springfield 2, Mass.

Gentlemen: Please send me Bulletin 52-1.

Name.....
Company.....Dept.....
Address.....
City.....State.....

If you write maker identify as IEN - 4867

EVERY STEP A SAFE STEP WITH BLAW-KNOX GRATING

Everyone walks safely, confidently on Blaw-Knox Electroforged Steel Grating . . . the one-piece panels stay rigid and strong—without shimmy or shake—because there are no parts to work loose. Twisted cross bars provide sure footing under the most adverse conditions. For complete information, write for Bulletin 2365.

BLAW-KNOX GRATING
Industry's first choice for

- SAFETY • STRENGTH • LONG LIFE
- LOW UPKEEP • SELF-CLEANING

Grating Department
BLAW-KNOX EQUIPMENT DIVISION
of Blaw-Knox Co.
2050 Farmers Bank Bldg.
Pittsburgh 22, Pa.

BLAW-KNOX ELECTROFORGED STEEL GRATING

If you write maker identify as IEN - 4868

ONE MAN CAN SAFELY, EASILY HANDLE 1000 LB. DRUMS

This Thomas No. 90 Safety Drum Truck makes handling of drums and barrels a cinch for one man. Trucker never touches barrel—loading and unloading is automatic. Sliding 2-in-1 hook fits all wooden and metal barrels, cradles drum securely so it can't roll off. Order one on a "return if not pleased" basis.

Send for Free Catalog

THOMAS TRUCK & CASTER CO.
304 Mississippi River, Keokuk, Iowa

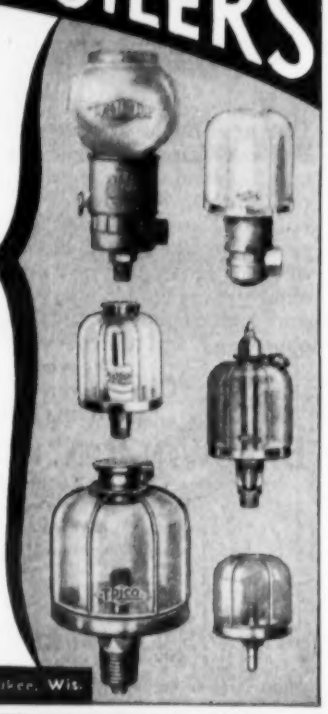
Visit Our Booth No. 901 at the 5th National Materials Handling Exposition, Philadelphia — May 18-22.

If you write maker identify as IEN - 4869

Here's Why It Pays
TO EQUIP YOUR MACHINERY & MOTORS
WITH TRICO AUTOMATIC OILERS

- Eliminate costly "trust-to-luck" daily hand oiling.
- Increase production time.
- Reduce bearing failures.
- Prevent premature wear and parts replacement.
- Savings of power and oil.
- Lengthen equipment life.
- No dangerous, slippery floors and fire hazards.

WRITE FOR FREE CATALOG



TRICO "KLIPLOK" CLAMPS
For Fuse Clips.

Save Fuses, Clips And Power. Prevent arcing and unnecessary fuse blows.
WRITE FOR BUL. NO. 6

TRICO FUSE MFG. CO. Milwaukee, Wis.

If you write maker identify as IEN - 4870

CRANE WHEELS AND WHEEL ASSEMBLIES

INSTALL THESE WHEEL ASSEMBLIES complete with axles, bearings, drive gears, grease fittings and all necessary parts for a complete installation. There are sizes, types, and styles of mounting to suit every requirement.

DOUBLE FLANGED WHEELS range in standard tread diameters from 7½" to 24"; SINGLE FLANGED WHEELS from 4" to 8". Wheels are available unmounted or in completely assembled units.

WRITE FOR CATALOG — Complete line of Downs Crane Wheels and Assemblies are illustrated and described in new Catalog No. 3540. Specifications included. Write today!

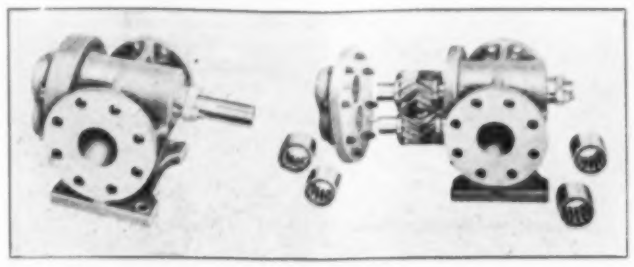
DOWNS CRANE & HOIST CO.
MECHANICAL ENGINEERS
540 W. VERNON AVENUE
LOS ANGELES 37, CALIF.

Electric Cranes • Hand Cranes • Jib Cranes • Sheaves • Sheave Blocks • Plate Grips • Plate Hooks • Crane Trolley Hoists • Crane Wheels • Crane End Truck Units • Jib Crane Fittings • Automatic Mechanical Load Brake Crane Hook Blocks

If you write maker identify as IEN - 4871

PUMP . . Rotary gear design, 1 to 500 gpm., pressure to 300 pounds

Source: SIER-BATH GEAR & PUMP CO.
9250 Hudson Blvd., North Bergen, N. J.



Precision cut gears

Two rotors with continuous herringbone teeth mesh together in this new design of the Hydrex pump. The hardened shafts are supported on roller bearings where they serve as the inner races. The shaft also is hardened and ground in the section that rides in the stuffing box. Lubricating fluids and semi-fluids, ranging from 32 to 250,000 ssu., can be handled on continuous duty to 300 lb. and on intermittent duty to 500 pounds. The pump is hydraulically balanced axially.

If you write maker identify as IEN - 4872

HOSE . . Rubber compound tube, rayon cord reinforced for air

Source: QUAKER RUBBER CORP.
Comly & Tacony Sts., Philadelphia 24, Pa.

Mines, quarries, construction jobs

Pressure rating is to 450 lb. for the new Qua-Flex brand air hose to handle compressed air. The rubber compound tube is resistant to attack by both oil and heat. It is reinforced with a braided rayon cable cord and is covered with thick wrapped rubber to protect the carcass from abrasion and to resist weather-checking and contact with oil. Length is to 50 feet. Inside diameter is in a range between ⅜ and 2 inches.

If you write maker identify as IEN - 4873

TIMING . . Calendar clock, motor drive, reads month, date, hour

Source: PENNWOOD NUMECHRON CO.
7247-51 Frankstown Ave., Pittsburgh 8, Pa.

One of five designs

Regency is a new design in the Calchron line of synchronous motor calendar clocks. It is assembled in a brushed finish brass housing with matching chrome bezel and feet in silver or gold finish. Dimensions are 7⅝ by 3¼ by 3¾ inches. Weight is 4¼ pounds. Packaging is six to a master carton. List price is $45.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 4874

THERE'S A WAYNE COMPRESSOR JOB ENGINEERED TO EVERY "AIR NEED" IN YOUR PLANT

PRE-TESTED GUARANTEED FULL RATED AIR POWER ON EVERY JOB

Designed, engineered and built under rigid quality-control in Wayne plants, each compressor is "job-engineered" . . . you are assured of buying guaranteed air output for a specific job. Wayne Air Compressors are checked and pre-tested for volumetric efficiency, performance and operating tolerances. Every working part is designed for minimum maintenance and low operating costs. Next time you need an air compressor get a Wayne . . . get your dollars' worth in air output and in service.

THE WAYNE PUMP COMPANY
SALISBURY, MD. TORONTO, CAN.

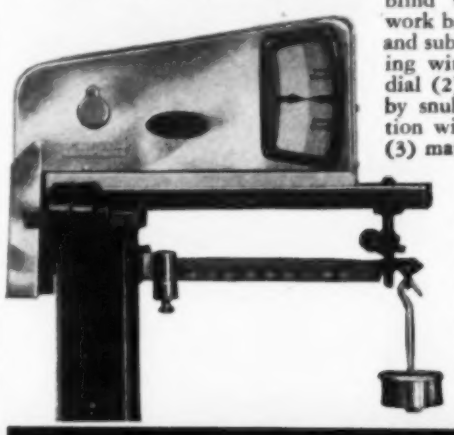
Wayne
NATION WIDE SERVICE

INDUSTRIAL LIFTS • HOSE REELS • AIR COMPRESSORS

If you write maker identify as IEN - 4875

EXACT WEIGHT Indicators Improve Your Weighing . .

An EXACT WEIGHT indicator is not a scale by itself. Rather it is a simple attachment which you can put on your regular platform scale. When you install this indicator you do this (1) eliminate blind weighing by guesswork balancing of the beam and substitute visible weighing with a plainly marked dial (2) speed up weighing by snubbing the scale's action with a simple dashpot (3) materially improve your weights by having every container accurate. An EXACT WEIGHT Indicator is a simple improvement . . . costs little yet saves so much in time and product. Write for details for your scale.



EXACT WEIGHT SCALES
BETTER QUALITY CONTROL
BETTER COST CONTROL

THE EXACT WEIGHT SCALE COMPANY
932 W. Fifth Avenue, Columbus 8, Ohio
2920 Bloor St., W., Toronto 18, Canada

If you write maker identify as IEN - 4876

STONEHOUSE SIGNS FOR ACCIDENT PREVENTION

TO KEEP PRODUCTION UP ...KEEP ACCIDENTS DOWN

Safeguard the worker against hazards and accidents—with the help of

STONEHOUSE SIGNS

Made in accordance with "American Standards Ass'n Specifications for Accident Prevention Signs"—the only authentic standards.

Write for complete Catalog No. 9, showing hundreds of different stock-worded Accident Prevention signs. It's free on request.

Stonehouse SIGNS, inc. MANUFACTURERS
Stonehouse Building • 842 Larimer • Denver 4 Colo.
"SIGNS SINCE 1863"

ACCIDENT PREVENTION SIGNS IN STANDARD COLORS AND DESIGNS

If you write maker identify as IEN - 4877

STOP THE CHARGE OF THE "BLIGHT BRIGADE"

WITH PERFORATED RIGID-*tex* METALS ON RADIO AND TELEVISION SPEAKER GRILLES

pattern 1-CS

"blight brigade" or "mite brigade", it spells trouble for radio and television speaker grilles made of scratchable, tearable, punchable fabrics. however, the most active family can't damage the design-strengthened patterns of perforated Rigid-tex Metal speaker grilles. manufacturers get an extra bonus by eliminating two, three and even more assembly operations with textured Rigid-tex Metal. there's no need for metal strips to protect the fabric—it's all in one decorative, mar-resistant material.

write for your Design Imagineering Folder . . . on company letterheads, please.

RIGID-*tex* METALS

RIGIDIZED METALS CORPORATION
6645 Ohio Street, Buffalo 3, N.Y.

50 Warehouses and Sales Representatives in all Principal Cities throughout the U.S. and Canada.

U.S. and Foreign Patents

If you write maker identify as **IEN - 4878**

THIS P-K SCREW SAVES UP TO 50% IN ASSEMBLY WORK-HOURS

cuts thread as it's turned in

AVOIDS

Tapping
Bolting
Riveting
Inserts in Plastics

ADDS

Fastening Strength

SAVES

Time and Trouble in Millions of Applications

P-K TYPE F
Hardened
SELF-TAPPING SCREW
One of six major types for every metal and plastic assembly. For details, write Parker-Kalon, 200 Varick St., New York 14, N. Y.

Call in a P-K Assembly Engineer
See why industry's fastening-wise leaders say —
YOU'RE O.K. WITH P-K® — THE *ORIGINAL*
PARKER-KALON SELF-TAPPING SCREWS

AVAILABLE EVERYWHERE THROUGH ACCREDITED DISTRIBUTORS

If you write maker identify as **IEN - 4879**

120% INCREASE IN PRODUCTION

With Less Manpower

D.P.S. Motorized HOPPER UNIT

PICKS 'EM UP & LAYS 'EM DOWN IN EXACTLY THE RIGHT POSITION

Let Us Adapt This Precision SELECTIVE FEEDING DEVICE To Your Individual Needs

Send us your feeding problem . . . Tell us where you want it . . . How fast you want it . . . and in what position you want it . . . AND WE WILL PUT IT THERE FOR YOU.

See how these hoppers are adaptable to all types of production machines.

WRITE FOR OUR MOST RECENT CATALOG

DETROIT POWER SCREWDRIVER CO.
2815 W. FORT ST. DETROIT 16, MICH.

If you write maker identify as **IEN - 4881**

CONVEYING . . Motor driven belt with steel apron to form a table top

Source: METZGAR CO.
417 Douglas St. N. W., Grand Rapids 4, Mich.

Workers stand at sides

Assembly and inspection are assisted by this new combination of the company's motor driven belt conveyor section and a steel apron that applies on the two sides of the belt. The assembly is available in various belt widths, with drives for set or variable speed from 5 rpm. and in ratios to four to one. Similar apron assemblies can be made with live roller conveyors, also in the line.

If you write maker identify as **IEN - 4882**

FLOOR . . Static conductive cement to surface old or new concrete or wood

Source: HUBBELLITE CORP.
1311 Farmers Bank Bldg., Pittsburgh 22, Pa.

Fireproof
sound deadening

Hubbellite trade names a new cupric oxychloride cement floor surfacing material. It contains finely divided copper to retard the growth of fungus and bacteria and to provide a surface material that will conduct static charges, retard mold. Application is made in thickness from ⅜ to ¾ inch. It can be used plain, or in combination with marble chips for a terrazzo finish.

The finished surface is resistant to attack by water, oils, organic solvents, cooking fats. It is sufficiently conductive to handle static charges and prevent sparking. It will not conduct voltages as in lighting circuits. It is particularly suited for use in locker rooms, food processing areas, ordnance plants, paint spray rooms, areas subject to oil spillage.

If you write maker identify as **IEN - 4883**

TESTING . . Probe and earphone picks up and amplifies machine noises

Source: MARSH INSTRUMENT CO.
3503 Howard St., Skokie, Ill.

For maintenance

Serviceman Soundscope is a new assembly of metal probe and diaphragm equipped earphone for application as shown in the illustration to locate defects in mechanical equipment. The unit will pick up and amplify the sound of leaking valves, defective bellows, wrist pin and bearing knocks, piston slaps, poorly meshed gears, rough bearings. It is supplied in a plastic carrying case.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 4884**

RUEMELIN BLAST GENERATORS

A practical low-cost sand blast used by plant engineers for maintenance work. Cleans rust, paint, scale from piping, valves, fittings, renovating buildings, stripping paint from trucks, busses, trailers, railroad cars, structural steel, storage tanks, ship hulls, etc. Can be fitted with Wet Adapting Nozzle for eliminating dust.

Write for Bulletin 36-C

RUEMELIN MFG. CO.
3863 N. Palmer St.
Milwaukee 12, Wis.

Manufacturers and Engineers
SAND BLAST AND DUST COLLECTING EQUIPMENT, WELDING FUME COLLECTORS.

If you write maker identify as **IEN - 4885**

Small precision metal parts... Torrington makes them better, and for less!

FREE CATALOG — shows the great variety of small parts we can produce inexpensively and promptly. Send for copy today!

If your product uses small precision metal parts . . . pivots, pins, dowels, rollers, mandrels, needles, punches, etc. . . . send us your blueprints for a prompt quotation.

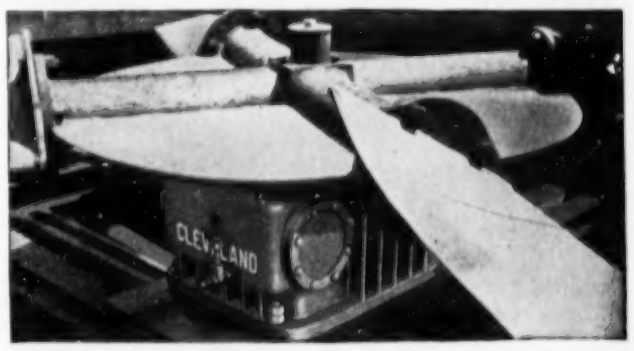
As a leading contract fabricator, TORRINGTON is equipped with the special machinery to produce in any quantity for quick delivery at low prices.

THE TORRINGTON COMPANY
Specialties Division
360 Field Street • Torrington, Conn.

Makers of
TORRINGTON NEEDLE BEARINGS

If you write maker identify as **IEN - 4886**

QUIET COOLING TOWER DRIVE FOR HIGH SPEED OPERATION



THIS worm gear Cleveland CU unit is designed specifically for cooling tower service. Rugged, efficient, compact, it easily handles heavy-duty fans at high speeds under extreme conditions of heat and humidity—Q-U-I-E-T-L-Y.

Simple in design, foolproof in operation. Easily installed, serviced and adjusted. So inherently quiet as to be ideal for use in air conditioning of industrial and public buildings, offices, stores, hotels, theaters, etc.

Bulletin 135 gives sizes, dimensions and horsepower ratings. Write for yours today. The Cleveland Worm & Gear Company, 3258 East 80th Street, Cleveland 4, Ohio.

CLEVELAND WORM & GEAR COMPANY
Speed Reducers
Affiliate: The Farval Corporation, Centralized Systems of Lubrication

If you write maker identify as **IEN - 4887**

NEED COPIES?

MODERN MIMEOGRAPHING—New equipment and supplies for the fast production of copies on a wide variety of paper and card stocks. A. B. Dick mimeograph products are for use with all makes of suitable stencil duplicating products.

MODERN OFFSET—A. B. Dick lithograph direct image plates and masters provide for (1) longer runs with sharp definition—(2) easier corrections—(3) more successful filing—(4) marked superiority in resistance to fingerprints.

MODERN SPIRIT DUPLICATING—A. B. Dick CLEEN-SEAL master sets and spirit carbons guard against stains and smudges. Available in a variety of sizes for long, medium and short runs. Five brilliant colors—purple, red, green, blue and black.

Write Dept. IEN 553 for full information—or call the A. B. Dick Distributor listed in the classified section of the phone book.

A·B·DICK
THE FIRST NAME IN DUPLICATING
A. B. Dick Company • 5700 Touhy Avenue • Chicago 31, Illinois

If you write maker identify as IEN - 4888

Typical 150 gal. Sta-Warm compound melter showing application of one mile of heating unit having low heat concentration per square inch.

● Many feet of closely spaced, specially wound resistance wire blanket the sidewalls and bottom of each Sta-Warm compound and soft metal melter. This basic Sta-Warm design provides uniform heat at low watts-per-square-inch to thoroughly heat entire contents of the tank without leaving any cold lumps to slow down production.

Heat is applied in multiple circuits as shown at left. Control devices include pyrometers or thermostats with magnetic contactors. Designed with or without agitators.

Whatever your resin or compound melting problem, there's a Sta-Warm melter to meet your needs.

Why not inquire for specific information today?

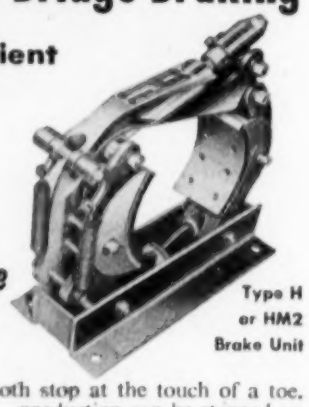
Sta-Warm ELECTRIC CO.
560 N. CHESTNUT ST., RAVENNA, OHIO

If you write maker identify as IEN - 4889

Now... Wagner Powered Hydraulic Crane Bridge Braking

for safer, more efficient Crane operation.

...More Torque
...Greater Capacity
...Less Operator Fatigue



Type H or HM2 Brake Unit

These new *Powered* Hydraulic Crane Bridge Brakes mean that your operators can bring even the largest crane to a safe, smooth stop at the touch of a toe. Loads can be spotted accurately—production can be stepped up—several brakes can be operated from one pedal—*all with less operator fatigue*!

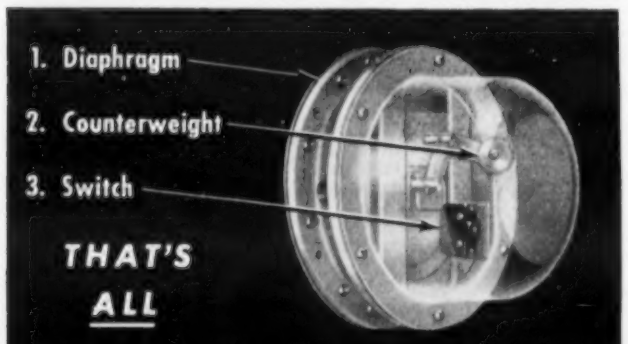
Wagner Powered Hydraulic Braking Systems are designed for applications where frequent starts and stops are necessary . . . where close spotting is used . . . where large heavy equipment is involved . . . and for applications where exceptional ease of brake operation is desired. Write for Bulletin IU-36.

Wagner Electric Corporation EST. 1891
6414 PLYMOUTH AVENUE
ST. LOUIS 14, MO.

152-3A

ELECTRICAL EQUIPMENT AND AUTOMOTIVE BRAKE PRODUCTS

If you write maker identify as IEN - 4890



THAT'S ALL

WORLD'S SIMPLEST BIN LEVEL INDICATOR

BIN-DICATOR

NO MOTORS • NO SPRINGS • NO OILING

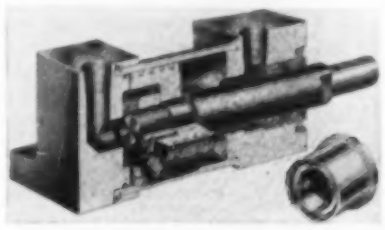
This is the first simple, dependable, low-cost automatic bin level indicator. Units installed 20 years ago are still in daily use. Watches *and reports* material levels in bins, silos, hoppers, chutes, etc.; automatically starts, stops filling machinery. Free catalog. Write—

THE BIN-DICATOR CO.
13946-B Kercheval Avenue • Detroit 15, Michigan

If you write maker identify as IEN - 4891

CYLINDER . . Double acting hydraulic for working pressures to 2,000 pounds

Source: S-P MFG. CORP.
12413-17 Euclid Ave., Cleveland 6, Ohio



Ask for Catalog 103

Steel cylinder is welded to the rod-end head in this new hydraulic power cylinder. It is held to the rear-end head by a snap ring and bolted flange. The cylinder is available in plain and cushioned design in eleven bore sizes from 1½ to 8 inches. Stroke length can be specified.

The piston is heat treated, ground, polished and hard chromium plated. It rides in a cartridge type wiper equipped throat seal bushing. This bushing is assembled in a bronze body and is held in place by a snap ring to permit quick change. The cylinder bore is honed. The piston is equipped with step cut rings. Several designs, for foot, flange, clevis and step mounting, are included in the line.

If you write maker identify as IEN - 4892

PAINTING . . Aluminum pigment disperses freely in heavy vehicle

Source: METALS DISINTEGRATING CO.
1188-92 Arthur Blvd., Elizabeth B, N. J.

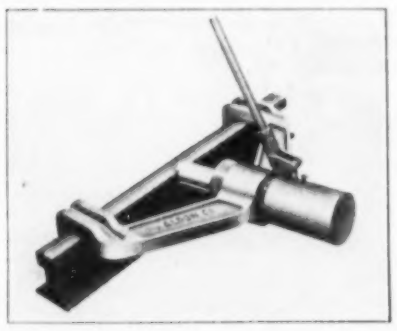
Technical data upon request

Aluminum Paste MD-515 is a new pigment that features fast leafing rate and ability to remain in free dispersion in its liquid vehicle over extended periods of time. The resulting film dries to a bright light diffusing finish. It provides good reflection and minimizes glare.

If you write maker identify as IEN - 4893

BENDING . . Hand hydraulic tool for use on 35 to 70 lb. track rails

Source: ALDON CO.
3340 Ravenswood Ave., Dept. T, Chicago 13, Ill.



Number 3-H

Hinged lever, mounted to the hydraulic cylinder at the rear of this new tool, operates a hydraulic plunger to transfer oil from the front to the rear of the piston and thus apply bending pressure at the slotted steel ram head. The cylinder and ram are mounted on a steel frame with integral hooks to fit over the rail head as shown in the illustration. Pressure is released for ram retraction by operating a valve.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 4894

To save money, let 'em roll on the NEW **MHS WHEELVEYOR**

Here's the inexpensive, rugged, practical, *money-saving* way to move smooth, full-bottomed commodities in plant, warehouse and store, and to and from carriers. Save time, money and manpower with new MHS Wheelveyor!

Many great features for long service, easy operation, extreme flexibility and economy. Get your copy of Wheelveyor bulletin and plan your own Wheelveyor installation. Write today!

SEND FOR FREE BOOK!

Mechanical Handling Systems, Inc.
4605 Nancy Ave. • Detroit 12, Michigan *Offices in Principal Cities*
In Canada: Canadian Mechanical Handling Systems, Ltd.

If you write maker identify as IEN - 4895

MOLDED PARTS

A **GRIES** SPECIALTY

Endless new design possibilities with GRC's Nylon small parts. Greater job adaptability, precision, economy. GRC's unique facilities produce tiniest Nylon parts in one high-speed operation; delivered automatically trimmed, ready for use. Single cavity molds provide more precise tolerances. LOW MOLD COSTS!

GET ALL THESE NYLON ADVANTAGES:

• unusual toughness • good bearing qualities • wide temperature range • abrasion resistance • high strength • light weight • moldable in complex shapes and thin sections.

MAXIMUM SIZE .025 oz.-1¼" long NO MINIMUM

Tiny parts also available in other thermoplastics, specializing in AUTOMATIC INSERT MOLDING

Write today for Bulletin and Demonstration Samples

GRIES REPRODUCER CORP.
797 EAST 132ND STREET • NEW YORK 54
Phone: MOtt Haven 5-7400

All parts actual size.

If you write maker identify as IEN - 4896

Used in this typical application for sensing temperature of hydraulic oil.

made right to work right

BENDIX-FRIEZ

high-precision thermistors

Whether you use these temperature responsive resistors in standard or special models, you can be sure of this. *They'll match your needs* for resistance values, size, temperature coefficient, mountings and quality. Made in our own plant under carefully controlled conditions, Bendix-Friez Thermistors know no equal.

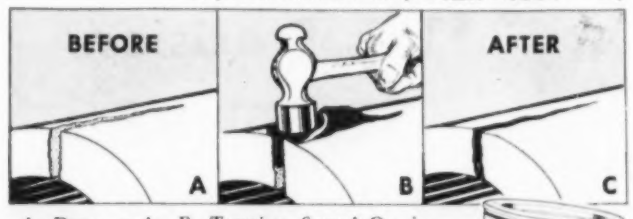
STANDARD TYPES FOR IMMEDIATE DELIVERY

Size (inches)	@ +30°C.	@ 0°C.	@ −30°C.
.140 x .75	45.0 ohms	83 ohms	194 ohms
.040 x 1.5	12,250 ohms	26,200 ohms	65,340 ohms
.018 x 1.5	35,000 ohms	82,250 ohms	225,000 ohms

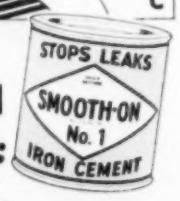
Write for details.

FRIEZ INSTRUMENT DIVISION of Bendix
1428 Taylor Avenue, BALTIMORE 4, MARYLAND
Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

If you write maker identify as IEN - 4897



A—Deep crack. B—Tamping Smooth-On in. C—Crack completely sealed.



If You've Never Used SMOOTH-ON, *read this:*

Smooth-On No. 1 Iron Cement is a metallic powder which you mix with water to the consistency of putty. You tamp it, while still soft, into a crack or hole, making sure to force it against all surfaces. With Smooth-On you don't need to use heat or special gadgets. As it hardens, it expands slightly, clinging tightly in place. The repaired parts is ready for use as soon as Smooth-On sets hard. Keep Smooth-On handy for both emergency and routine maintenance repairs. Get it in 7 oz., 1, 5, 20, or 100 lb. size. If your supply house hasn't Smooth-On No. 1, write us.

FREE 40-PAGE REPAIR HANDBOOK

Shows many industrial and home repairs made with No. 1 and other smooth-on Cements. Leaks stopped, cracks, sealed, loose parts made tight. 140 illustrations. Drop us a line for YOUR free copy.

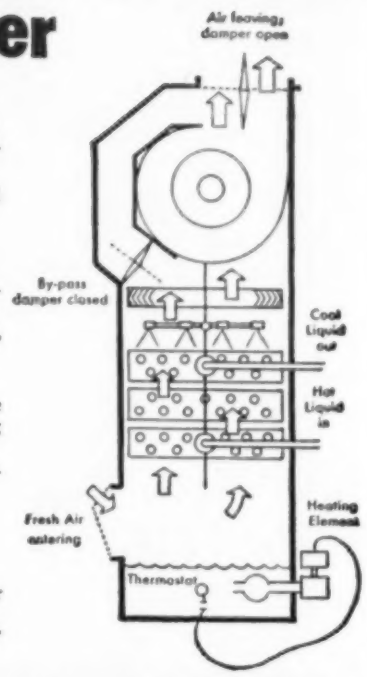
SMOOTH-ON MFG. CO., Dept. 1
57 Communipaw Ave., Jersey City 4, N. J.

50-293

Do it with **SMOOTH-ON**
THE IRON REPAIR CEMENT OF MANY USES

If you write maker identify as IEN - 4898

NIAGARA Aero Heat Exchanger



1. Extends quenching capacity without extra water or cooling tower.
2. Quickly pulls down heat at initial peak load of Quenching.
3. "Balanced Wet Bulb" Control holds quench bath at proper temperature, heating if needed to start after shut-down, and cools or heats by automatic control.
4. Saves cleaning expense as compared to cooling tower which picks up acids and fumes from air.

APPLICATIONS

Quench Oils
Cutting Oils
Lubricating Oils
Cooling Water

For help in increasing production, saving of cooling water, write for Bulletin No. 120. Address

NIAGARA BLOWER COMPANY

Over 35 Years of Service in Industrial Air Engineering

Dept. EN, 405 Lexington Avenue New York 17, N. Y.

Experienced District Engineers in all Principal Cities of U. S. and Canada

If you write maker identify as IEN - 4899

Packaging costs were reduced by as much as one-fourth when the Fafnir Bearing Co. adopted the Stanley Steel Strapping System.

In almost every type of plant—with almost every type of product—substantial savings are being made in packaging and handling by this cost-cutting system. Put it to work for *you*. Call in the Stanley Packaging and Shipping Engineer. He'll install the Stanley Steel Strapping System on a 30-day trial. There's no obligation. Just mail the coupon below. The Stanley Works, Steel Strapping Division, New Britain, Conn. Branch Offices or Representatives in 32 principal cities.

STANLEY STEEL STRAPPING SYSTEM*

Reg. U.S. Pat. Off.

*A MAN thoroughly experienced in steel strapping applications—the Stanley Packaging and Shipping Engineer.

A METHOD adaptable to any requirement — the Stanley Steel Strapping System,

5th NATIONAL MATERIALS HANDLING EXPOSITION MAY 18-22, 1953 PHILADELPHIA

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

The Stanley Works, Steel Strapping Division
147 Lake St., New Britain, Conn.

☐ Yes — the 30-day trial interests me. Have the Stanley Packaging and Shipping Engineer call.

☐ Send me complete information about the Stanley Steel Strapping System.

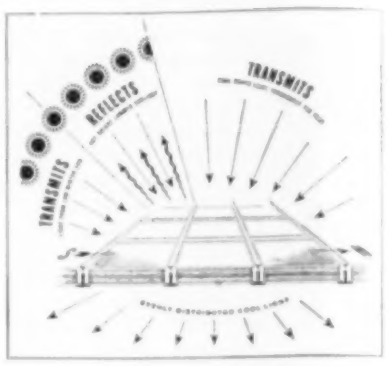
(Please write name and address in margin of page)

See us at Booth 1009

If you write maker identify as IEN - 4901

BUILDINGS . . Glass block skylight in aluminum grid, ready to install

Source: KIMBLE GLASS CO.
538 Ohio Bank Bldg., Toledo 1, Ohio



Conditions the light

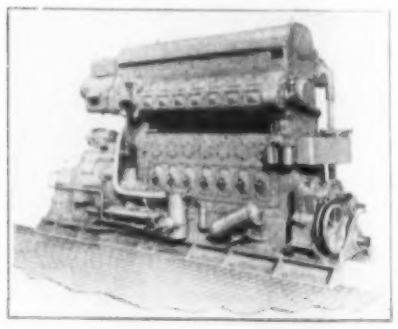
Two pieces of pressed glass are hermetically sealed together with an intermediate sheet of Fiberglas in construction of the individual blocks in the new Kimble Toplite System skylight. Assemblies of the blocks and aluminum grids are factory fabricated and shipped ready for installation. The construction is characterized by low transmission of solar heat in the summer months, by elimination of glare, uniform light transmission at all times for evenly diffused interior lighting, good insulation during cold weather, freedom from porous materials.

Prisms on the inside of the top piece of glass are designed so daylight and solar heat transmitted into the interior will vary depending upon the location of the sun. The second piece of glass distributes the light to the area below. The sheet of Fiberglass, 0.002 in. in thickness, softens the transmitted light and augments the insulating effect of the vacuum between the two glass faces. Each hollow unit measures 10⅝ by 10⅝ by 3 inches. The assembly is set in the grids with a hot prepared tar and sulphur compound. A panel weighs 16 lbs. per square foot and is available in four sizes. These measure 3 by 3 ft., 4 by 4 ft., 4 by 5 ft. and 3 by 6 feet.

If you write maker identify as IEN - 4902

ENGINE . . Two cycle diesel, opposed piston design, 225 to 750 hp.

Source: FAIRBANKS MORSE & CO.
606 S. Michigan Ave., Chicago 5, Ill.



Two pistons per cylinder

Continuous duty rating is 75 hp. per cylinder at 1,200 rpm. for this new Model 38F5 ¼ diesel engine. It has 5½-in. bore and 7¼-in. stroke. The three-cylinder 225-hp. assembly weighs 7,100 pounds. The engine is a small size of the original 8⅛ by 10-in. diesel, previously described IEN-3182-45.

Two pistons in each cylinder operate in opposite directions to drive upper and lower crankshafts. These shafts are connected at one end so they work together to transmit power to the drive end.

Standard equipment includes the required pumps, heat exchanger, filter and other auxiliaries for pressure lubrication, a closed cooling water circuit, mechanical fuel injectors, rotary scavenging air blower.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 4903

Here's an AMAZING BRAND NEW SAFETY SIGN that will be welcomed by Safety Men! Brady Safety Signs stick to wood, glass, metal, concrete, etc. without moistening. May be applied to any clean surface in a jiffy. No screws, nails, bolts or skilled help necessary. All you do is peel from card, apply where wanted and the sign is up to stay.

Brady Safety Signs are made of durable cotton cloth, Silicone Coated to resist dirt, grime and moisture. CONFORM TO ASA Standard Z35.1-41. Select your requirements from a complete catalog of standard safety messages. Cost only a few cents per sign. Immediate delivery. Specials made to order.

WRITE FOR Free SAMPLES AND USEFUL CATALOG

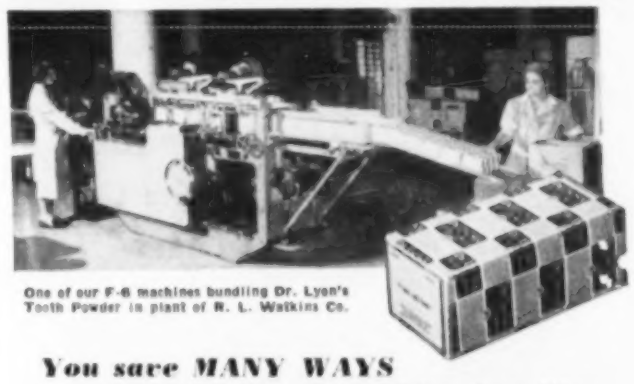
WIRE MARKERS · PIPE MARKERS · SAFETY SIGNS · PRINTED BELL TAPE · MASKS & STENCILS

MANUFACTURERS OF SELF-STICKING PRODUCTS

W.H. BRADY COMPANY

743 W. GLENDALE AVE., MILWAUKEE, WIS.

If you write maker identify as IEN - 4904



One of our F-6 machines bundling Dr. Lyon's Tooth Powder in plant of R. L. Watkins Co.

You save MANY WAYS with high-speed machine bundling

A bundling machine repays its cost within an amazingly short time . . . Very little supervision is required . . . As many as 24 bundles of a dozen, half-dozen or fewer items are turned out per minute . . . Sturdy, low-price kraft paper is used, with end-seals applied automatically. One compact roll of paper replaces hundreds of bulky cartons. These bundles weigh less—cost less to ship. And they're easier to store.

We have designed several bundling machines for a variety of needs. To find out how great your savings can be, contact our nearest office.

Write for literature

PACKAGE MACHINERY COMPANY
SPRINGFIELD, MASSACHUSETTS
NEW YORK · CHICAGO · BOSTON · CLEVELAND · ATLANTA · DALLAS · DENVER · LOS ANGELES · SAN FRANCISCO · SEATTLE · MEXICO, D. F.

If you write maker identify as IEN - 4905

SAVE Chrome Plate Your Cutting Tools in Your Own Shop . . . FAST

Chromaster—revolutionary new industrial chrome plating method—already adopted by many leading firms to lengthen tool life, reduce downtime

With the demands on your own machinery more pressing, Chromaster means dollar savings to you. It enables you to increase tool life, salvage worn cutting tools and parts, reduce tool inventories, and lessen machine downtime.

Chromaster is the new industrial chrome plating machine which permits you to conduct your own plating operations, in small space, anywhere in your plant.

Compact, self-contained units can be operated at amazing speed — 3½ minutes for the average job. There's a size Chromaster for every need.

Send today for complete facts on Chromaster.

INDUSTRIAL CHROME DIVISION
WARD LEONARD ELECTRIC CO.

Chromaster

33 South Street, Mount Vernon, N. Y.

If you write maker identify as IEN - 4906

EFFICIENT *Electric* HEAT GIVES YOU $$$ SAVINGS

CHROMALOX *Electric* HEATERS

SAVE MONEY, TIME AND LABOR WITH THESE EFFICIENT AND PROVED HEATING UNITS

If you use heat in your production line, processes or products, Chromalox Electric Heaters can most likely point the way to added savings through increased efficiency, lowered costs, decreased working time. See for yourself how Chromalox Heaters can go to work so easily in your plant.

GET THIS BOOKLET—IT TELLS YOU HOW

EDWIN L. WIEGAND CO., Industrial Division
7505 THOMAS BLVD., PITTSBURGH 8, PA.
Send me the illustrated booklet "100 Ways To Apply Electric Heat."

Name _____
Company _____
Street _____
City _____ Zone _____
State _____
I use heat for _____
_____ IB-12

CHROMALOX

See Chromalox Immersion Heaters Advertisement, Page 5

ELECTRIC HEAT FOR MODERN INDUSTRY

If you write maker identify as IEN - 4907

Request Your Copy Now!

New catalog shows how

Di-Acro (pronounced Die-ack-ro) is the registered brand name for DI-ACRO Brakes, Notchers, Punch Presses, Rod Forters, Rollers, Shears, Benders.

"DIE-LESS DUPLICATING" SAVES TOOLING COSTS, SPEEDS PRODUCTION

Shows many photos of "Die-Less Duplicating" forming technique with Di-Acro Machines. Features 36 hand and power models in quick reference tables. Explains free Di-Acro Engineering Service. Write for your copy now.

di-acro

PRECISION METALWORKING MACHINES

O'NEIL-IRWIN MANUFACTURING CO.
718 8th Avenue • Lake City, Minnesota

If you write maker identify as IEN - 4908

If you write maker identify as IEN - 4909

this book shows you how to

Reduce machine noise and vibration 60-85%.

Avoid floor drilling by mounting machines the modern way, without bolts or lag screws.

Reduce maintenance costs by eliminating transmitted vibration which damages machines, floors and buildings.

Save time and money when installing new machinery or repositioning present machinery.

Write today for your free copy of "Why It Pays To Anchor Your Machines With UNISORB."

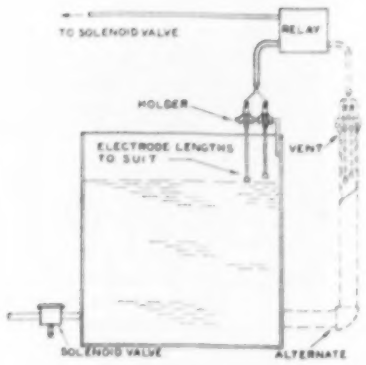
THE FELTERS COMPANY
208 South Street, Boston 11, Massachusetts

UNISORB® MOUNTINGS are used with our special adhesive. UNISORB is also available precoated with adhesive, for use with machines that do not require shimming.

If you write maker identify as IEN - 4910

CONTROL . . Electric equipment for liquid level in tanks, vessels

Source: JOHNSON CORPORATION
805 Wood St., Three Rivers, Mich.



Can be adjusted

New assembly of the company's electrode holder, relay and solenoid valve provides a means to control conductive liquid level. The holder takes two electrodes, positions them at upper and lower level limits. A circuit is established through the liquid, the electrodes and the relay coil until falling level opens it. Then the solenoid closes to stop further drain or opens to admit new liquid, depending on the installation requirements.

If you write maker identify as IEN - 4911

INSULATING . . Polystyrene film replaces mica under certain conditions

Source: NATVAR CORP.
209-13 Randolph Ave., Woodbridge, N. J.

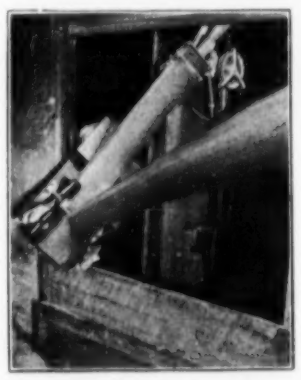
Technical data upon request

Styroflex, originally developed in Germany, is now being manufactured under license agreement in the United States. It is a flexible oriented plastic film with electrical properties that suit it particularly for high frequency applications. It softens at 95 deg. C., has compressive strength to 14,000 lb. per sq. in. below this point. Tensile strength is to 10,000 lb. per square inch. The film is non-hygroscopic. It is available in tapes from ¼ to 10 in. in width and from 0.0004 to 0.005 in. in thickness overall.

If you write maker identify as IEN - 4912

CONVEYING . . Belt type unit throws granular material into a car

Source: STEPHENS ADAMSON MFG. CO.
231 Ridgeway Ave., Aurora, Ill.



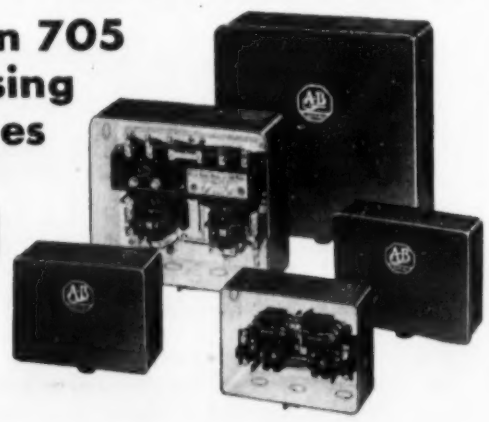
Ask for Bulletin 253

New assembly of the motor driven belt type Hi-Type Swiveloader centrifugal thrower, on the bottom of a sloping feed chute, enables an operator to load granular materials into a box car over the top of three 20-in. grain doors. Throwing direction is controlled by a chain operated wheel from the loading dock. The feed chute pivots into the car. The material is thrown by the high speed belt to reach the end of the car at rates to 80 ton per hour maximum.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descripitions . . Ratings . . See Page 50

If you write maker identify as IEN - 4913

Bulletin 705 Reversing Switches



- Contactors mechanically interlocked
- Silver-alloy contacts need no cleaning

This complete line of switches provides reliable across-the-line starting and reversing of polyphase squirrel-cage and slip-ring motors, as well as certain types of single-phase motors used on machine tools and other industrial equipment. May also be used in motor plugging operations. Write for descriptive bulletin. Allen-Bradley Co., 1312 S. Second St., Milwaukee 4, Wisconsin.

ALLEN-BRADLEY
QUALITY
MOTOR CONTROL

If you write maker identify as IEN - 4914

Industrial uses of LULL Shoveloaders:

- Moving
- Lifting
- Loading
- Clearing
- Scraping
- Sweeping
- Snow Removal

Lull Shoveloader is a handy machine to have around the plant. Literally has 101 uses to keep it busy all year 'round. Versatile . . . dependable . . . economical. Material buckets from ⅜ to 1 cubic yard capacity . . . 1,800 to 6,000 pounds lifting capacity. Lull Shoveloader attachments include cranes, bulldozers, sweepers, coal buckets, snow buckets, etc.

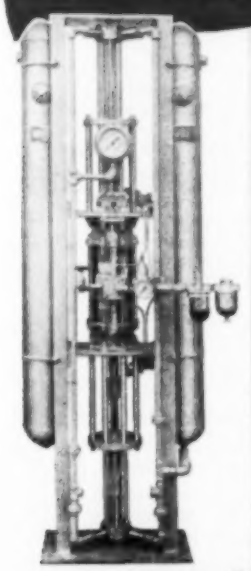
Send for your free copy now

BAKER-LULL CORPORATION
a subsidiary of The Baker-Raulang Co., Cleveland, Ohio
362 West 90th Street • Minneapolis, Minn.

If you write maker identify as IEN - 4915

If you write maker identify as IEN - 4917

HIGH PRESSURE OIL from LOW PRESSURE AIR



Ledeen PUMPS

Ledeen Heavy Duty Pumps and Power Units are built for operation of clamps, valve actuators, forming or drawing presses, safety installations, high pressure testing and other hydraulic circuits requiring adjustable pressure and volume and long pressure-holding cycles, without overheating the oil. Built as a complete package power unit, ready for easy installation, requiring connections only to incoming air line and outgoing hydraulic lines. Available in horizontal construction for minimum head room, and vertical construction for minimum floor space. Simple to install, inexpensive to operate.

Write for Bulletin 4000

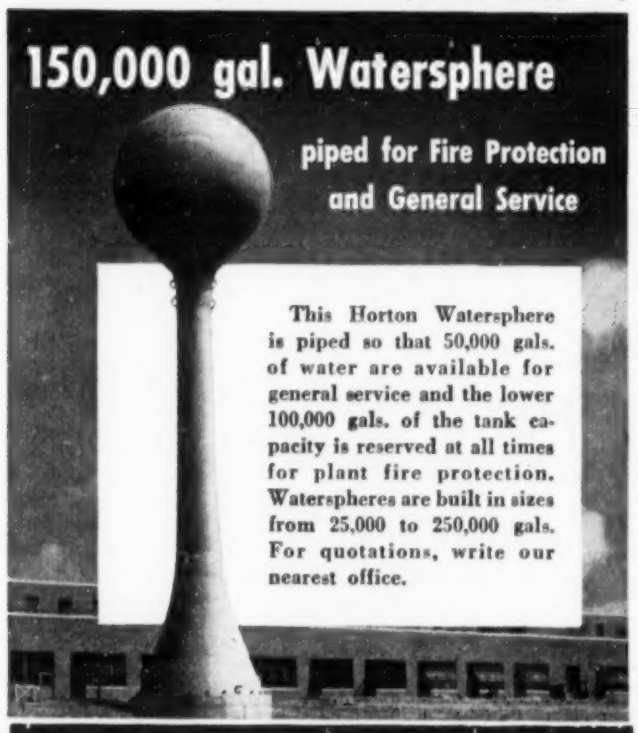
Ledeen Mfg. Co.
1602 San Pedro
Los Angeles 15, Calif.

VALVES • CYLINDERS
AIR-HYDRAULIC
PUMPS & BOOSTERS
VALVE ACTUATORS
AIR HOISTS

If you write maker identify as IEN - 4918

150,000 gal. Watersphere

piped for Fire Protection and General Service



This Horton Watersphere is piped so that 50,000 gals. of water are available for general service and the lower 100,000 gals. of the tank capacity is reserved at all times for plant fire protection. Watospheres are built in sizes from 25,000 to 250,000 gals. For quotations, write our nearest office.

CHICAGO BRIDGE & IRON COMPANY
2123 McCormick Building • Chicago 4, Illinois

Atlanta • Birmingham • Boston • Cleveland • Detroit
Houston • Los Angeles • New York • Philadelphia
San Francisco • Seattle • Tulsa

Plants in BIRMINGHAM, CHICAGO, SALT LAKE CITY and GREENVILLE, PA

If you write maker identify as IEN - 4919

PROTECT YOUR Threaded Products DURING SHIPMENT

with

Uni-CAPS

and

Uni-PLUGS

Plugs can be furnished in Tenite #2 or Tenite #1 or special snap caps and plugs from Polyethylene

Send specifications on sizes desired and monthly production requirements.

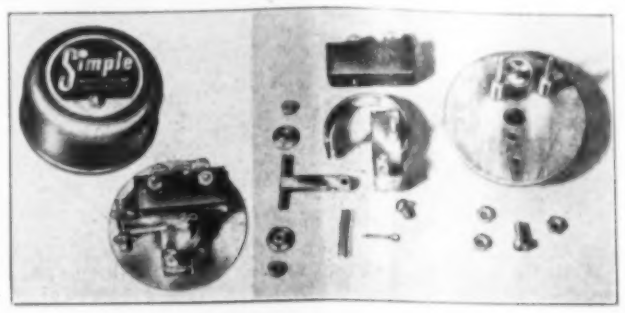
FAST DELIVERY ON STANDARD SIZES

UNITED Plastic INDUSTRIES
INCORPORATED
CUSTOM MOLDED PLASTICS
53 Brown St. Vassar, Mich.

If you write maker identify as IEN - 4920

SWITCH . . Pressure operated for use in signal and control circuits

Source: SIMPLE MFG. CO.
212-16 Temple St., Syracuse 4, N. Y.



Accessible, corrosion proof

Bourdon tube actuates a sensitive snap acting switch to operate a warning or control circuit when air or fluid pressure varies beyond predetermined limits in this new switch assembly. Contacts rate ½ hp. on 110-volt ac. Standard stock setting for "on-off" operation is in any range between 5 and 100 pounds. The switch, the bourdon tube and the adjusting mechanism are assembled on a base plate fitted with a weatherproof enclosure. The plate carries inlet openings for pressure and electrical connections. Overall dimensions are 3 in. in diameter by 2 in. in height. Weight is 11 ounces.

The switch can be furnished with an adaptor for two conduit openings and direct motor mounting. It also is available for pressures over 100 lb. with an interchangeable unit that can be attached in the standard assembly with a single screw. No lubrication is required.

If you write maker identify as IEN - 4921

TESTING . . Portable fluoroscope to disclose hidden product defects

Source: GENERAL ELECTRIC CO.
4853-57 Electric Ave., Milwaukee 14, Wis.

Note nail in heel

Portability is combined with special assembly in new design of fluoroscope for inspection of products such as those in the rubber, electrical, light metal, plastic and wood industries. The new unit resembles a television set on wheels. It mounts a fluoroscopic screen on which a shadow image, measuring 14 by 17 in., is created. Radiographs or X-ray films can be made for record purposes. Operation is on 110-volt 60-cycle ac.

The operator hinges the screen open at the front of the machine and places the object to be inspected on a hand operated turntable. Then he closes the screen and the circuit which energizes the X-ray tube at the rear. He turns a knob that rotates the turntable and the work so he can view the work from every direction. He is protected against radiation by the sealed lead lined compartment and by the lead impregnated glass through which the image is viewed. The X-ray tube cannot be operated while the door is open.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 4922

ZIP-GRIP* Self-Locking SET SCREWS

are used on

MINNEAPOLIS MOLINE MM MODERN MACHINERY

Uni-Harvestor ...to lick vibration

A puzzling set screw problem in the oil pump on this multi-purpose farm machine was successfully solved by the use of three Zip-Grip* Self-Locking Set Screws.

Whatever your product, take a tip from makers of everything from tractors to TV sets, and see whether your set screw problems, such as vibration or close-precision adjusting, can be solved by Zip-Grip* Self-Locking Set Screws, which have exclusive "Contra-Thrust" action. Write us describing your application and we will send you Free Test Samples and Zip-Grip* Demonstrator.

SETKO SET SCREWS Meet All Regular Set Screw Needs.

Ask for latest stock list. If you want greater holding power with same seating torque, ask about new "Zip-Grip" Set Screws.

FOR FREE CATALOG

Simply write your name and address on margin of this page, tear out and mail today.

Set Screw & Mfg. Co.
8 Main St., Bartlett, Ill. (Chicago suburb)

*Pat. Pending

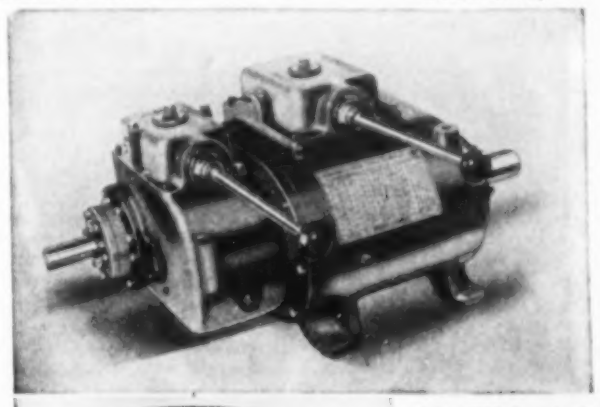
We Specialize in Solving Puzzling Set Screw Problems

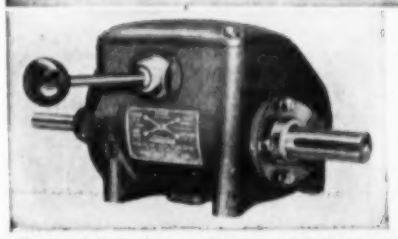
If you write maker identify as IEN - 4923

WESTERN "SUPER" with 8 SPEED CHANGES

For use on large lathes, boring mills, chemical and rubber machinery, etc., and used for replacement of gear boxes on large radial drills. CAPACITY 50 HP.

in geometric progression of 1.29 (total reduction of 6:1)





(left) "900 B series" has a 5 hp. capacity with input speed of 900 r.p.m. . . . 4 gear changes are available through one-shift-lever automotive type. Ratios — 1:1, 2:1, 3:1, 4:1.

On special machines where transmissions are required — a standard WESTERN model can often be adapted to give the required spindle speeds . . . and even when modifications are made, a WESTERN for the basis of the design greatly simplifies the problem. Similar transmissions of 10 hp. capacity are available . . . we can supply the necessary V-belts, sheaves, output pulleys, and motors from stock.

up to 100 h. p. For Motorizing Lathes, Milling Machines, Shapers, Turret Lathes, Radial Drills, Slotters, Bolt Cutters, Gear Cutters, Die Sinkers, Boring Mills, etc.

WESTERN TRANSMISSIONS

WESTERN MANUFACTURING CO. — 4268 SCHOOLCRAFT — DETROIT, MICHIGAN

If you write maker identify as IEN - 4924

100,000 pounds of steel

or delicate TV tubes

Yale Electric Trucks give you the safer way to move more materials

No matter what your handling problems may be, you can solve them with YALE Electric Trucks. Industries of every kind...companies of every size ...are cutting handling costs as much as 75% with YALE equipment and methods...saving time, work and manpower, too. Get one of the wide range of standard models in the capacity you need to become your plant's most versatile tool...or get specialized trucks or attachments for your specialized handling jobs. One or both...a single truck or a fleet...you'll get more maintenance-free, 'round-the-clock service with safer YALE TRUCKS.

YALE*

MATERIALS HANDLING EQUIPMENT
*Registered Trade Mark

MAIL THIS COUPON TODAY

The YALE & TOWNE Manufacturing Co., Dept. 365
Roosevelt Blvd. and Haldeman Ave., Phila. 15, Pa.
Please have your local representative call for an appointment.

Company_____
Name_____ Title_____
Street_____ City_____ State_____

In Canada write: The Yale & Towne Mfg. Co., Box 337—Postal Station "A"—Toronto

Gas, Electric, Diesel Lift Trucks • Worksavers • Hand Trucks
Hand and Electric Hoists • Pul-Lifts

If you write maker identify as **IEN - 4926**

Rolling Steel Doors

Manually, Mechanically, or Power Operated

Below you see Mahon Power Operated Rolling Steel Doors installed in six truck openings to a motor freight loading dock. Another Mahon Power Operated Rolling Steel Door 17'-0" x 22'-0" is installed in a railroad opening in connection with this same loading dock. Rolling Steel Doors occupy no usable space either inside or outside the opening . . . they create no overhead obstructions—cranes may be employed to handle materials adjacent to the door opening. Quick opening, quick closing, vertical roll-up action saves valuable time . . . all-metal construction provides permanence, greater protection against intrusion and fire, and assures you a lifetime of trouble-free service. Write for Catalog containing complete information including Specifications.

THE R. C. MAHON COMPANY
Detroit 34, Michigan • Representatives in All Principal Cities

MAHON

If you write maker identify as **IEN - 4927**

hand pushed

TROLLEYS

Webb Hand Pushed Trolleys are sturdily built for long life and minimum maintenance. Hardened steel wheels equipped with retainer type ball bearings assure long wearing properties and ease of operation. Triple labyrinth seals keep lubricant in and dirt out. Side guide rollers effectively eliminate binding and excessive wear, especially when moving loads around curves. For simple, inexpensive and easy handling of materials, use Webb Hand Pushed Trolleys.

P-2530
4" to 10"
I-Beam;
½ Ton.

FOR BULLETIN AND PRICES WRITE TO:

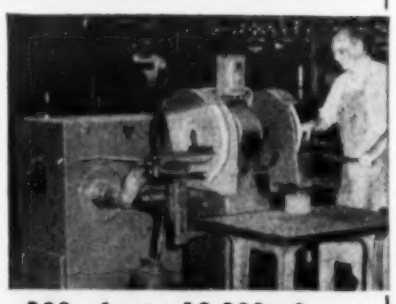
JERVIS B. WEBB COMPANY
8915 ALPINE AVE.
DETROIT 4, MICH.
OFFICES IN PRINCIPAL CITIES
CONVEYOR ENGINEERS AND MANUFACTURERS

If you write maker identify as **IEN - 4928**

STOP DUST

INSTANTLY with DUSTKOP

DUSTKOP 1400 cfm.



DUSTKOP 3600 cfm.

300 cfm to 10,000 cfm per unit (22 models)

Standard pre-tested, available from stock. Ask for catalog 605-2. Describe dust problem for recommendation by return mail. No obligation.

AGET-DETROIT CO.
401 Main Street
ANN ARBOR, MICH.

If you write maker identify as **IEN - 4929**

MARKING . . Self-adhesive labels on card to direct handling action

Source: W. H. BRADY CO.
725-29 W. Glendale Ave., Milwaukee 12, Wis.

Card sample upon request

Write-On is a recent addition to the company's line of card mounted self-adhesive labels. The new labels carry stock wording to include "rejected," "accepted," "hold," "return to vendor," "rework," "hold for inspection." One plain label is for special use.

Each instruction carries its own distinctive color, from red for rejected to white for the plain label. Individual label size is ⅝ by 1½ inches. Space under the printing can be initialed and dated before removing the labels from the card.

If you write maker identify as **IEN - 4930**

SOLDERING . . Rosin core wire will penetrate oxide film on the work

Source: FEDERATED METALS DIVISION
120 Broadway, Room 1043, New York 5, N. Y.

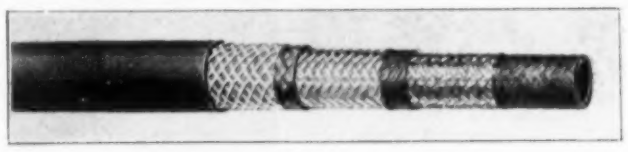
For use on non-ferrous metals

RTS-200 is a new active, non-corrosive rosin core solder available in 40/60, 50/50 and 60/40 compositions in 0.062 gage wire. It is packaged in 1, 5 and 20-lb. quantities on metal spools. The solder is characterized by its ability to penetrate oxide films and its freedom from harmful corrosion residue under high humidity conditions meeting Specification MIL-S-6872. Activity of the flux is not impaired by storage for long periods of time. The core material is not toxic.

If you write maker identify as **IEN - 4931**

HOSE . . For hydraulic fluids, wire reinforced, rates to 5,000 pounds

Source: QUAKER RUBBER CORP.
Comly & Tacony Sts., Philadelphia 24, Pa.



Designed for shock loading.

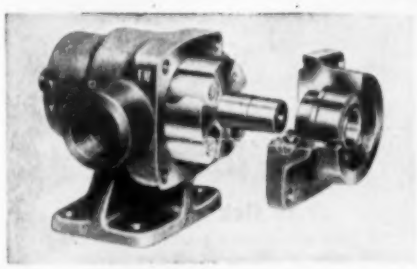
Sizes range from $\frac{3}{16}$ to 2 in. in inside diameter for a new hydraulic high pressure hose to employ in equipment control lines. The rubber tube is compounded for resistance to the usual hydraulic fluids. It is reinforced by one or two layers of fine high tensile steel wire and is completed with a cross-wrapped rubber cover to protect against mildew, oils, greases, fumes. The hose is available also with a rubber impregnated cotton braid cover. Flexibility is retained in a temperature range between minus 40 and plus 250 deg. F.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 4932**

A PAID NEWS ADVERTISEMENT BY HYPRO ENGINEERING, INC.

PUMP . . Industrial-type has special rotor design for increased pressures and wide adaptability



A new, industrial-type pump—the Hypro 4000 Series — designed to combine greater utility, wearing life, increased pressures and wide adaptability, has been marketed by Hypro Engineering, Inc., Minneapolis, Minn. A new specialized rotor design makes it possible to obtain higher capacities and pressures up to 150 lbs. The Roller Pump is especially adaptable to the handling of certain powder suspension materials in water and other non-lubricating liquids.

Designed primarily for industrial, farm, chemical and marine use, the Hypro 4000 Roller Pump is available in cast iron or "Ni-Resist" with Nylon or rubber rollers. Scooped slots in the rotor greatly increase the pump's capacity by utilizing space behind the rollers as well as between each roller. Permanently sealed-in-grease ball bearings are employed. The pump has suction "bleed-back" port to relieve pressure on seals. Lateral rotor movement, a common cause of wear in rotary pumps, is reduced to a minimum because of pressed fit of stainless steel shaft into the inner race of ball bearings resulting in a "free-floating" rotor with no metal-to-metal wear inside the pump case.

For further information including prices, write Dept. 201, **Hypro Engineering, Inc.,** 404 No. Washington Ave., Minneapolis 1, Minnesota

If you write maker identify as **IEN - 4933**

New, Larger COVER GOGGLES

fit over ALL modern glasses . . .

New CESCO series 548 and 549 Cover Goggles are 20% larger than former cover goggles. Contoured edges with wide surfaces eliminate pressure on nose, seal out flying particles or light flashes. Standard 50 mm lenses are quickly changed from front. Both chippers and welders models are well ventilated to reduce fogging. Simplified bridge adjustment. 3 headbands.

See or write your CESCO safety equipment distributor for full details

Features

- Lightweight sturdy plastic, contoured edges
- Ventilated lenses with baffled air flow
- Sideshields— Baffled for welding Perforated for chipping or grinding

CHICAGO EYE SHIELD COMPANY • 2326 Warren Blvd. • Chicago 12, Ill.

CESCO FOR SAFETY

OFFICES IN: Atlanta, Birmingham, Boston, Buffalo, Cincinnati, Cleveland, Columbus, Detroit, East Orange, Houston, Kansas City, Knoxville, Little Rock, Los Angeles, Mexico City, St. P., Milwaukee, Montreal, Philadelphia, Pittsburgh, Salt Lake City, San Francisco, Spokane, St. Louis, St. Paul, Toledo, Tulsa

If you write maker identify as **IEN - 4934**

FOSTER

Chrome Sleeve Quick Detachable

COUPLERS

AND HOSE FITTINGS

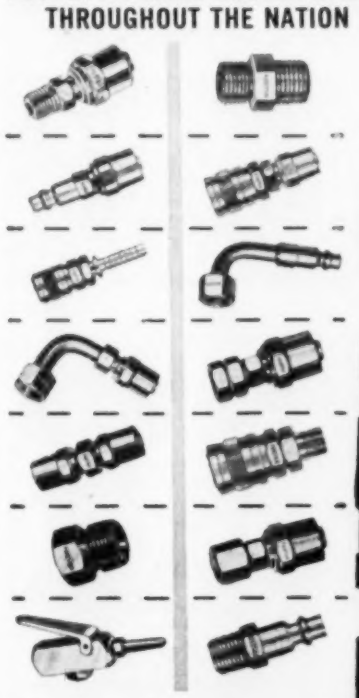
Price...Lower than most
Quality...None Better
Delivery...Immediate

- Reusable Socket Heads for Lower Replacement Cost!
- One Second Hookup Under Pressure!
- Tight-Seal, Dirt-Proof Construction! Leak-proof!
- Instant Automatic Flow! Swivel Action!

Foster Quick Detachable Couplers for pneumatic and hydraulic applications give longer service and cost less than other comparable couplers. Delivery of any order, large or small, is immediate. An order to Foster is faster. **Write Dept. 3.**

FOSTER MFG. COMPANY, INC.
2850 Gravois • St. Louis 18, Mo.

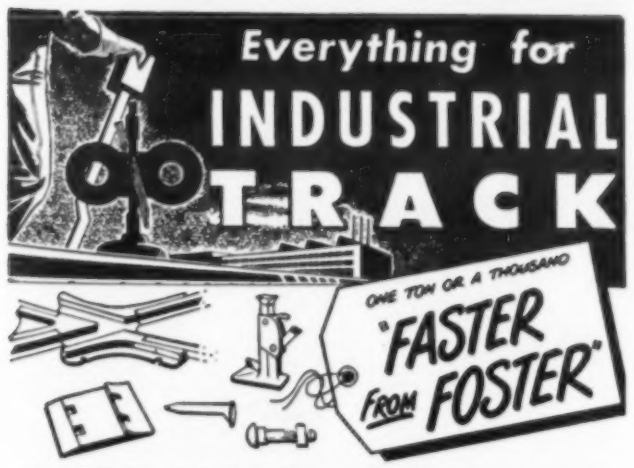
FOSTER FITTINGS ARE AVAILABLE THROUGHOUT THE NATION



Send for *Free* CATALOG

ASK US WHY WE RECOMMEND

If you write maker identify as IEN - 4936



Need Rails—Switches—Frogs—Guard Rails or Track Tools? For best selections and prompt deliveries—try FOSTER—shipments of most items can be made from stocks in our five nationwide warehouses.

RAILS—New and Relaying Foster stocks are being replenished daily. Any items we did not have last week, we'll probably have next week. We match specifications and sizes to meet all your requirements on any job, new installations or replacements. *Call on Foster for all your needs for Industrial Track Equipment and Supplies.*

Write for Track Equipment Bulletin IE-5.

L.B. FOSTER CO.

CHICAGO 4, ILL. HOUSTON 2, TEX.
PITTSBURGH 30, PA. NEW YORK 7, N.Y.

If you write maker identify as IEN - 4937

Overhead work's a **SNAP!** with the NEW **Ladscaf** SCAFFOLDING

PLACE IT!

SNAP IT!

No Bolting with Ladscaf

'LOCK-ON' CLAMPS

It's a snap to erect Ladscaf with these new positive-action clamps. Will not disengage until trigger is released.

UP FASTER

Quickly clamps together to build better scaffold faster. Ladder rungs are spaced just a foot apart.

SWIVEL ACTION

Stabilizers swivel back to move scaffold easily thru narrow aisles.

UP STAIRS

Ladscaf 'climbs' stairs easily—reduces blocking to a minimum. 2-foot wide panels permit convenient passage around scaffold.

Write for informative, New Ladscaf Bulletin IE-5.

IT'S A SNAP TO SAVE

Call on Universal's layout and planning service to help you

on all Maintenance Painting and Decorating Problems

UNIVERSAL SCAFFOLDING

Ladscaf low-cost, welded steel ladder panels, eliminate bolting—are quickly erected with exclusive snap-on' clamps. Easily fits in confined areas—can be rolled on casters—and extended to straddle machinery.

Combine New Ladscaf with famous Universal Ezebilt steel-panels and Endlok pipe-and-clamp for difficult and unusual scaffolding jobs.

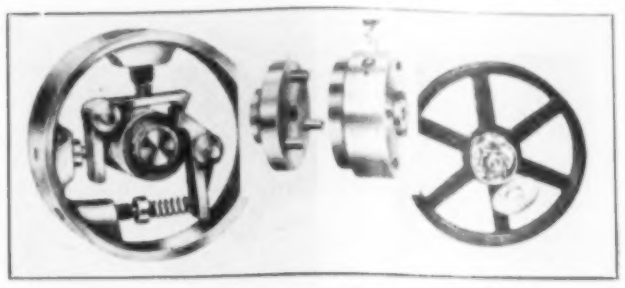
UNIVERSAL MANUFACTURING CORP. ZELIENOPLE, PA.

Distributors offer fast help and service. Consult your classified phone directory.

If you write maker identify as IEN - 4939

DRIVE . . Overload safety clutch, releases, locks out at preset torque

Source: OVERLOAD RELEASE CLUTCH CO.
1160-64 Stuyvesant Ave., Dept. E, Irvington, N. J.



Data and illustrations in "Watch Dog Bulletin"

Type C, shown to the left in the illustration, is one of a number of designs of the company's overload release clutch, previously advertised IEN-967-53. It is available for application in sprocket, chain, belt and gear drives. Bore ranges from ½ to about 7 inches. Corresponding outside diameter is 3 to 30 inches. Width is 1½ to 15 in. and weight is 3 to 1,150 pounds. The smallest unit is suited for maximum speed of 4,000 rpm. The largest can rotate to 450 rpm. Maximum torque is 75 to 125,000 in. pounds.

A driving pawl, pivoted in the clutch housing and backed by a spring, engages a notch cut in a bushing that is keyed to the driven shaft. Additional hold-in effort is provided by a reset lever, also pivoted in the housing and backed by a second spring. It rides on top of the driving pawl. When overload occurs, the pawl is caused to back out of its notch until it reaches a position where the reset lever drops into a shoulder to hold it out of engagement and the driving action is released. The lever is reset by turning a screw in the housing rim. This lifts the lever and allows the pawl to drop back into its notch.

Additional assemblies, based on the design just described, include a flexible coupling, a reversible drive with manual reset, a cut-off switch that will open a motor circuit when release occurs, rotating and stationary lateral release designs.

If you write maker identify as IEN - 4940

SAWING . . Band saw machine hinges down to cut work to 8 inches

Source. WELLS MFG. CORP.
111 Madison St., Three Rivers, Mich.

For production

Model 800 designates a new machine designed particularly for use with Milford Rezistor high speed steel band saw blades. It is equipped with wheels to take blades to 1 in. in width and has a blade tensioning device that sets and maintains correct tension on the blade. A brush, driven at the same speed as the travel movement of the blade, keeps the teeth clean.

The motor is equipped with a three step sheave and V-belt to establish blade speeds suited for given work. The work holding vise swivels between square and a 45-deg. angle.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 4941

Warning!

Industrial skin accidents cause more lost time than broken bones

It just doesn't make sense to yell about safety in your plant and neglect occupational skin hazards from oils, acids and alkalis, which are among the most frequent and severe of all factory injuries. You're risking lost production, costly claims and good employee relations.

$147.00* — that's the average skin trouble treatment cost in some areas. If you've escaped it, you're lucky. And you know it doesn't pay to push your luck. It's real cost cutting to see that your people have protective clothing, especially gloves.

The complete line of 32 non-allergic PIONEER Stanzoil Gloves of oil-and-acid resistant DuPont neoprene are meeting every hand-skin hazard in hundreds of plants — at very low cost per hour. Don't take chances with dangerous occupational dematitis — write *today* for new Stanzoil catalog that shows you how to choose the safe economical glove for each job!

* *"Industry's Big Itch", "Occupational Hazards", December 1952.*

Industrial Products Division

The PIONEER Rubber Co. • 235 Tiffin Rd., Willard, Ohio

QUALITY GLOVES FOR 35 YEARS

If you write maker identify as IEN - 4942

Do the job BETTER with SQUARE D Pneumatic Timers

Whether your requirements call for A.C. or D.C., these Square D design features deliver the most in consistent and accurate performance

Wide Range • Time delay period easily adjusted over a period of 0.2 seconds to 3 minutes in an infinite number of steps.

Easy Adjustment • Finger tip adjustment of timing period can be made simply by rotating a knurled knob or a micrometer dial.

Repeat Accuracy • Less than 10% variation from the mean timing period. Accurate timing, even under abnormal ambient temperature conditions.

Write for Bulletin 225. Address Square D Company, 4041 N. Richards St., Milwaukee 12, Wisconsin

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

If you write maker identify as IEN - 4943

Over Half of America's Top Companies Use "Speed Sweep"

THE BRUSH WITH THE STEEL BACK

BECAUSE it sweeps faster and cleaner, and outlasts ordinary brushes 3 to 1, Speed Sweep has become the No. 1 sweeping tool of American Industry — used by over 50,000 firms. Whether you use a few or a lot of brushes, you'll find it pays to switch to Speed Sweep.

Write for styles, sizes and prices.

MILWAUKEE DUSTLESS BRUSH CO.
MILWAUKEE 3, WISCONSIN

If you write maker identify as IEN - 4944

cable problem:

ACID?

No problem here — Okolite-Okoprene cables with an Okonite-designed neoprene sheath reduce electrical breakdown caused by acid fumes, wastes and soils. In sulphuric acid battery electrolyte at a temperature of 160° F., an Okoprene cable jacket was still in good condition after immersion for 21 months.

In Okolite-Okoprene cables both insulation and sheath are applied by Okonite's strip insulating process and vulcanized in a metal mold for greater stability and longer life. Available in all sizes and designs.

Full details in Bulletin IE-1053

For your copy, write to The Okonite Company, Passaic, N. J.

OKONITE *insulated wires and cables*

1671

If you write maker identify as IEN - 4945

Use CIRCULAR SHAPES? OUR SPECIALIZED SERVICE will SAVE YOU MONEY!

CIRCULAR SHAPES are a serious problem to many lacking the experience and equipment to do this work efficiently. That is why we can produce BETTER circular shapes for LESS MONEY. You are invited to submit your CIRCULAR SHAPES to us for an analysis. In most cases we can suggest ways of reducing costs. Can produce CIRCULAR SHAPES of all types, using strip, square or round stock, also tubing and channels. Made in sizes up to 1/2" square bar stock and in strips from 1/16" thick to 1 1/2" wide.

DO YOU USE CASTINGS?

Many are still making CIRCULAR SHAPES from castings. We have made very substantial savings by supplying CIRCULAR SHAPES made from strip or bar stock. This eliminates expensive machine work and provides longer wearing parts.

Write to

THE AUTO-DIESEL PISTON RING CO.
3139 Superior Avenue • Cleveland 14, Ohio
"RINGS and SHAPES Since 1921"

If you write maker identify as IEN - 4946

NOW... A POLISHER THAT'S UNIVERSALLY ADJUSTABLE

Built for use with the Vonnegut Brush-Backed Polishing Head, this unique tool is designed for sanding, smoothing or finishing contoured patterns — such as mouldings and formed or extruded shapes.

The brush bristles of the head automatically force abrasive strips to conform with and follow the shape of the pattern. The unique spindle stand (adjustable to any angle through 180° from vertical to vertical with head below or above the motor) makes it possible to bring the Vonnegut head into proper relation with a vertical, horizontal or angled surface of any pattern.

Don't hold back. Tell us about your finishing problems; we MAY have the answer to cutting YOUR costs.

Grinding and Polishing Machinery Corp.
SUCCESSORS TO VONNEGUT MOULDER CORPORATION
2530-D WINTHROP AVE., INDIANAPOLIS 5, U. S. A.

If you write maker identify as IEN - 4947

NOW Spray On design layout ink

for METAL GLASS or WOOD

EASIER! FASTER!

• No brush, no waste, no mess, no stained hands. Aerosol-type can sprays on CROWN Design Layout Ink in fine mist that dries to excellent scribing surface in a minute. DARK BLUE. Also ideal for "OK" or "reject" inspection marking.

Order Today! $1.59 Per 12-oz. Can

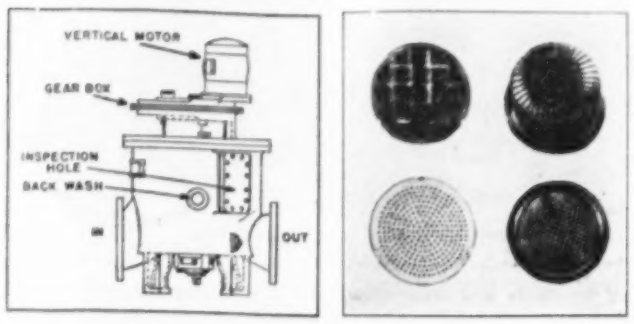
15% discount in cases of 12. Additional discount for larger quantities. F.O.B. Woodstock, Illinois.

CROWN INDUSTRIAL PRODUCTS CO.
715 Amsterdam St., Woodstock, Ill.
Please ship at once:
.....(how many?) cans
.....(how many?) cases
CROWN Design Layout Ink.
Name.....
Company.....
Our Purchase Order No.....
Address.....
City.....Zone.....State.....

If you write maker identify as IEN - 4948

STRAINER . . Motor driven design, self-cleaning action for any liquid

Source: S. P. KINNEY ENGINEERS INC.
203 Second Ave., Carnegie, Pa.



User specifies the application

Strainer elements, in standardized diameter, fit in openings machined in the vertical shell of a closed-top open-bottom drum in this new strainer. The drum rotates inside the housing where it is surrounded with raw liquid. The bottom of the drum is sealed by a synthetic rubber ring so liquid flow must be through the elements, down inside the drum and out through a connection opposite to the inlet.

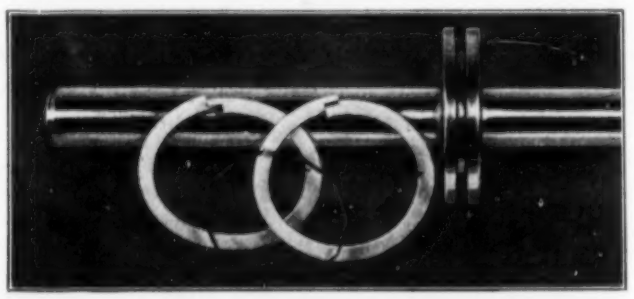
Vertical rows of the elements register with a vertical recess in the housing connected to an outlet on the housing side. As each row passes the recess the elements are backwashed by the pressure of clean liquid in the drum. Liquid loss is negligible for this operation.

The assembly is available in 2 to 36-in. pipe sizes and in a range of element designs and materials from bronze slotted cones to stainless steel, bronze or porcelain screens.

If you write maker identify as IEN - 4949

SEALING . . Two plastic rings and expander spring for a piston

Source: W. S. SHAMBAN & CO.
11615-19 W. Jefferson Blvd., Culver City, Calif.



Spring assists in sealing action

BW Series S-11022 designates a new combination of two Kelon-T, teflon, step joint piston rings and an expander spring to apply in the groove on a piston. One end of the spring engages notches cut on the inside diameter of the rings to hold them so the stepped joints cannot coincide as the result of relative rotation.

The ring material is tough, inert and free from corroding action. It can operate in a temperature range from minus 100 to plus 300 deg. F. It will seal pressure to 5,000 pounds. It will compensate for bore irregularity. Friction is negligible. Sizes range from 1 to 4 in. in outside diameter.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 4950

Boost Your Machine Output With This G-E Time Meter

KT TIME METERS . . .
• Record operating time in hours, tenths of hours, or minutes.
• Reveal exactly how much work your machines are doing.
• Enable you to reschedule work and plan repair schedules more efficiently.
• Are easily installed; portable, panel, and conduit models available.

Contact Your Nearest G-E Sales Office. General Electric Co., Schenectady 5, New York. 603-136

GENERAL ELECTRIC

If you write maker identify as IEN - 4951

It's for You!

HOW TO
★ Save Time
★ Save Floor Space
★ Reduce Handling Costs

all in this FREE BULLETIN NO. 48-JS

VISIT NUTTING BOOTH 1514
Materials Handling Exposition, May 18-22 Philadelphia

On-the-job photos demonstrate the many advantages of the Nutting Jack and Skid System. It is easy and inexpensive to install—and it is so flexible to varying plant layouts that there is scarcely a materials handling problem to which it cannot be profitably applied.

Send now for your copy of Bulletin 48-JS

SINCE 1891 Nutting TRUCK AND CASTER CO.
2014 DIVISION ST., W., FARIBAULT, MINN.

If you write maker identify as IEN - 4952

NEW!

Atlas CLAUSING PRECISION MACHINE TOOLS DIVISION ATLAS PRESS COMPANY KALAMAZOO, MICHIGAN U. S. A.

18" HEAVY DUTY POWER FEED DRILL PRESS

★ Drills 1" cast iron, 3/4" steel
★ No. 3 Morse Taper, 6 1/2" spindle travel
★ HEAVY-DUTY GEAR-DRIVEN POWER FEED TO TAKE FULL ADVANTAGE OF THIS BIG TOOL AND JOB CAPACITY

An 18" *heavy-duty* drill press, with larger tool and job capacity, PLUS a *heavy-duty* GEAR-DRIVEN power feed to make effective use of its capacity — those are the brief facts about this fine new Clausing development.

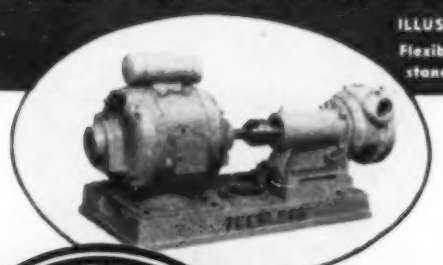
The power feed, with its large heavy-duty gears, is positive and sure — NO belt slippage to reduce power. Feed selection is instant — BY DIAL — no belts to change. Add the Clausing features of new spindle bearing engineering, vernier depth stop, and exclusive head and table positioning mechanism — and you know this is a tool that can save you plenty on both set-up and operating time. Get all the facts — send for new literature today.

CLAUSING DIVISION
ATLAS PRESS COMPANY
5-105 N. PITCHER STREET, KALAMAZOO, MICHIGAN

If you write maker identify as IEN - 4954

FOR PUMPING MODERATE CAPACITIES AGAINST MEDIUM AND HIGH HEADS USE THESE TURBINE VANE TYPE PUMPS

ILLUSTRATED—Flexible-coupled standard pump



PEERLESS TYPES TVE & TVB

PEERLESS PUMPS

For pumping hot or cold clear or vaporous liquids

Write today for Peerless Pump Bulletin No. B-2205. Profusely illustrated with pictures of both standard and self-priming pump types. Also contains sectional pump drawings, elevations and dimensional data, head-capacity characteristics.

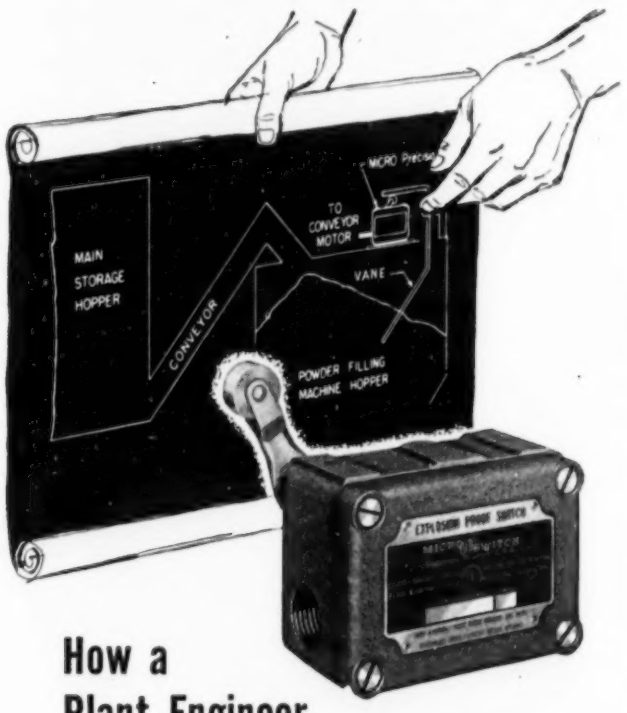
Capacity: to 58 gpm.
Heads: to 800 ft.
H.P. Range: to 20 h.p.

ILLUSTRATED—Close-coupled self-priming pump

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION

Los Angeles 31, California and Indianapolis 8, Indiana
Offices: New York, Chicago, St. Louis, Atlanta; Dallas, Plainview and Lubbock, Texas; Fresno, Los Angeles; Phoenix; Albuquerque, N. M.; Tulsa

If you write maker identify as IEN - 4955



How a Plant Engineer made hopper-loading AUTOMATIC ...with a MICRO switch

● A Midwestern plant engineer installed an explosion-proof MICRO switch in the motor circuit of his powder loading conveyor.

As the hopper fills to the predetermined point, pressure of a pivoted actuating vane in the machine hopper operates the switch and halts the conveyor bringing powder from the main storage hopper.

This simple but important installation is typical of the thousands of uses that plant engineers are making every day of these versatile, precise snap-action switches to make present equipment safer, more automatic and more productive.

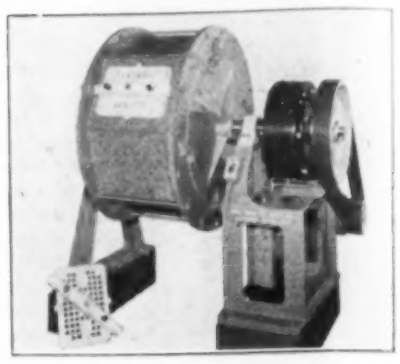
If you are looking for new ways to make existing plant equipment safer and more automatic, you will find a MICRO Authorized Distributor located near you with a full line of switches to meet a wide variety of applications. Look in your classified telephone directory under "Switches, Electric." Write for MICRO TIPS . . . a veritable gold mine of practical switch application ideas. We'll be glad to put you on the mailing list.

MICRO
MAKERS OF PRECISION SWITCHES
FREEPORT, ILLINOIS
A DIVISION OF
MINNEAPOLIS-HONEYWELL REGULATOR COMPANY

If you write maker identify as IEN - 4957

TUMBLING . . Motor driven barrel for burnishing, burring, cutting down

Source: ABBOTT BALL CO.
353 Railroad Place, Hartford 10, Conn.



Bulletin on request

Four sizes are standard, with ten basic combinations of single, double and triple compartment design, in this new tumbling barrel. Standard inside diameters for single barrels, equipped with maple linings, are 24 by 8 in., 24 by 16 in., 30 by 8 in., and 30 by 16 inches. Assemblies employed for burring and the cutting operations do not have the 3 in. hard maple lining.

Provision is made for a driving motor on the barrel pedestal where a standard motor base is mounted. Connection between the motor and the input side of an American shaft mounted speed reducer is by sheaves and V-belts. The sheaves can be chosen for a desired barrel speed. End plates and side walls are designed for quick replacement. Control centers at a push button switch. Lubrication points are in color.

If you write maker identify as IEN - 4958

BENDING . . Hydraulic machine for solid, tubular, shaped materials

Source: O'NEIL-IRWIN MFG. CO.
547 Eighth Ave., Lake City, Minn.

All-purpose design

New design of the Hydra-Power hydraulic bending machine, previously described IEN-2884-50, now employs a 3-hp. motor in place of the initial 2-hp. unit. Control is by both foot and hand. The machine cabinet is now made of ¼ and ½-in. steel plate to provide rigid support for the machine.

Pressure is supplied by Vickers hydraulic equipment, built into the base, for bending speed between 6 and 12 rpm. The company can supply tooling.

Identify as IEN - 4959

Out of France has come a new ignition mechanism, employing static, for gasoline engines. Heckethorn Manufacturing and Supply Company holds the license for manufacture and sales in the United States and Canada. The small self-contained generator distributor is tamper proof, requires no adjustment or timing. It eliminates need for coils, condensers, breaker points. There is no radio interference.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 4960

IT GOES WHERE THE JOB GOES!

McDonald **KANISTER KIT**

You couldn't ask for a more permanent, dependable first aid kit than this proved favorite! Weatherproof plastic roll-up is sturdy, lasts for years. But that doesn't mean it has to stay put—its simplified mounting bracket means quick installation in trucks, even on trees or posts for outdoor use! It's the easy way to keep first aid available—whenever, wherever needed!

WRITE FOR BULLETIN AND PRICES

Mounts Anywhere!

Safety FROM HEAD TO FOOT

B·F·McDonald COMPANY
Manufacturers & Distributors of Industrial Safety Clothing & Equipment

5721 West 96th St., Los Angeles 45 — Other Offices in San Francisco and Houston

If you write maker identify as IEN - 4961

INDUSTRIAL INKS To Mark Anything!

Whatever the substance, Phillips has an ink to mark it permanently and legibly—or can make one. Marking experts insist on "Clear Print" Wood Block Stamp Pads and Opaque Inks. They get clear, sharp, fast-drying impressions. Also inks for brush, pen, stencil or machine application available in a variety of colors and quantity containers.

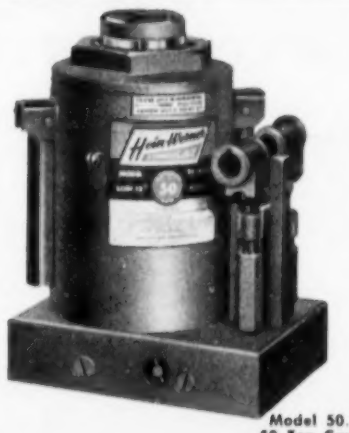
★ Quick Laboratory Service On Your Problem Markings

★ To Permanently Mark . . . Metals, Plastics, Glass, Wood, Paper, Leather, Ceramics—glazed, varnished or lacquered surfaces and virtually every other known material.

L. A. PHILLIPS, President
PHILLIPS PROCESS CO. INC.
192 MILL STREET
ROCHESTER 14, N. Y.

If you write maker identify as IEN - 4962

Handle Heavy-duty Jobs Faster Safer Easier with a HEIN-WERNER HYDRAULIC JACK



Model 50.12AA
50 Ton Capacity

This compact Hein-Werner Jack is ideal for moving heavy machinery, pulling gears and pinions, bending pipe, as the power unit for presses, or countless other industrial applications. No crews or helpers are needed. Confusion and wasted man-hours are avoided. Sturdy handles simplify carrying and positioning . . . fall flush against jack housing when not in use.

Complete line includes models of 1½, 3, 5, 8, 12, 20, 30, 50 and 100 tons capacity. See your industrial supply distributor or write us.

Hein-Werner HYDRAULIC JACKS

HEIN-WERNER CORPORATION • WAUKESHA, WIS.

If you write maker identify as IEN - 4963

NoDrip ...STOPS CONDENSATION DRIP!

NoDRIP PREVENTS RUST in addition to stopping drip and keeping floors dry.

ANYONE CAN APPLY Brush, trowel or spray NoDrip on tanks, condensers, suction lines, vats, pipes, walls ceilings, etc. NoDrip adheres to metal, concrete, brick, plaster. It forms a seamless covering that is effective as soon as dry. Acid, alkali and brine resistant.

Interesting 32-page Handbook shows what NoDrip is and what it does. It's free. Send coupon today.

☐ SEND NoDRIP HANDBOOK
NAME
COMPANY
ADDRESS
CITY STATE

J. W. MORTELL CO., 510 BURCH ST., KANKAKEE, ILLINOIS
TECHNICAL COATINGS SINCE 1895

If you write maker identify as IEN - 4964

CAMBRIDGE EXTENSION PYROMETER

This Cambridge Surface Pyrometer is extremely useful in the Paper, Textile and Steel industries for the determination of surface temperature in hard-to-get-at places. It is accurate, dependable, rugged, quick-acting and easy to use. Other single-purpose and combination models also available for use in Rubber, Plastics, Printing, Glass and Electrical and many other industries.

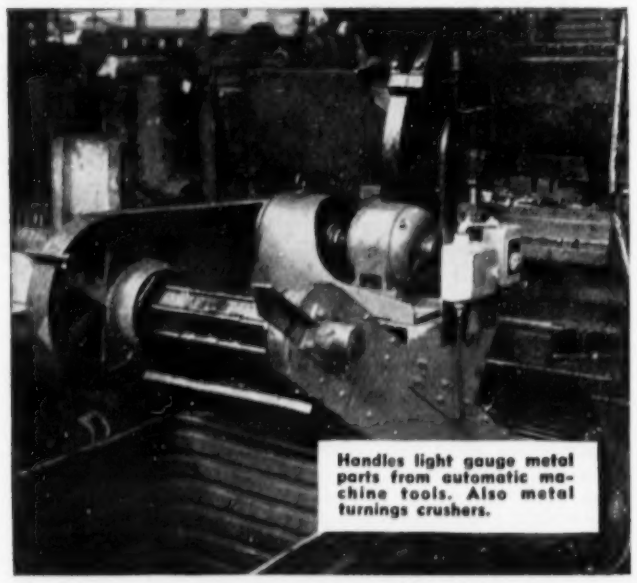
Send for bulletin 194 S.A.

CAMBRIDGE
ROLL • NEEDLE • MOLD
PYROMETERS

CAMBRIDGE INSTRUMENT CO., INC.
Pioneer Manufacturers of Precision Instruments
3710 Grand Central Terminal New York 17, N. Y.

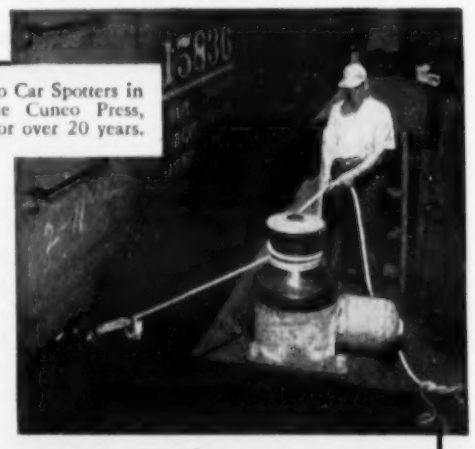
If you write maker identify as IEN - 4965

HINGED-TYPE
APRON CONVEYORS



THE JEFFREY MANUFACTURING CO.
Columbus 16, Ohio
IF IT'S MINED, PROCESSED OR MOVED . . . IT'S A JOB FOR JEFFREY!
sales offices and distributors in principal cities

If you write maker identify as IEN - 4966


One of two Car Spotters in use at the Cuneo Press, Chicago, for over 20 years.

HERE'S a sure way to reduce demurrage charges

LINK-BELT CAR SPOTTER speeds spotting of cars for loading and unloading. That means reduced switching time and lower demurrage costs. And only one man is needed to move railroad cars. Add up these savings, and there's only one answer—lowered costs, money saved. Available in portable or stationary models for moving up to six loaded railroad cars.

LINK-BELT CAR SPOTTER 13,159

Send for Book 2092—for facts on car spotters and drum type pullers.

LINK-BELT COMPANY: Plants: Chicago, Indianapolis, Philadelphia, Colmar, Pa., Atlanta, Houston, Minneapolis, San Francisco, Los Angeles, Seattle, Toronto, Springs (South Africa), Sydney (Australia). Sales Offices, Factory Branch Stores and Distributors in Principal Cities.

If you write maker identify as IEN - 4967

DRIVE . . Friction clutch is operated by air in pneumatic tube

Source: FAWICK AIRFLEX DIV.
9917-21 Clinton Road, Cleveland 11, Ohio

To build in

Compressed air is admitted or released at a connection shown near the top of this new Type VC air ring clutch. It expands or permits retraction in an oval shaped pneumatic ring located between the outer ring in the clutch housing and a ring of friction faced shoes. These shoes are equipped with torque pins to engage side plates. Air pressure in the pneumatic ring locks the complete assembly as a single unit with a clutch drum.

Sizes range from 12 to 48 in. in inner ring diameter. Corresponding torque capacity is 27,000 to 380,000 inch pounds. Air is connected by means of rotary joints the company is prepared to supply so flow can be established from a stationary point.

If you write maker identify as IEN - 4968

VALVE . . Pressure relief design adjustable between 800 and 1,200 pounds

Source: SIMONSEN MFG. CO.
353 Quimby St., Quimby, Iowa

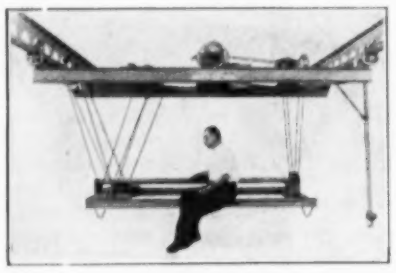
For hydraulic pressure line

New valve assembles in a pipe section housing measuring 3 in. in length by ¾ in. in pipe size. It employs a spring backed ball that seals a relief passage until pressure against the ball exceeds that of the spring. Maximum flow capacity is 10 gpm.

If you write maker identify as IEN - 4969

CRANE . . Tramrail assembly with load carrier that will not swing

Source: CLEVELAND CRANE & ENGINEERING CO.
1137 E. 283rd St., Wickliffe, Ohio


Load rides rigidly

New arrangement of hoist ropes forms a triangular suspension for the load carrier on this new traveling crane. The arrangement eliminates longitudinal, lateral and rotational sway so a load raised or lowered through a considerable distance will hold its position.

Typical application is in handling heavy X-ray equipment employed to make studies of long work pieces. The crane is suited also to handle hot metal in a foundry from the cupola to the molding area by automatic control without danger of spilling the metal. The company can supply the crane in specified span and load carrying capacity and lift height.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 4970

Log-Edger Feed-Rolls lifted by NOPAK Cylinder

controlled by NOPAK 3-Way Air Valve

This Pacific Coast type log edger, manufactured by Albany Machine & Supply Co., Albany, Ore., employs an 8" NOPAK Model "D" Single Acting Air-Cylinder to lift the heavy feed-rolls by means of lever arms. This permits feeding of various sized cants as required. The cylinder is actuated by a ¾" NOPAK, 3-Way Air Valve, equipped with lever extension-bar enabling the operator to manipulate it from any point in front of the machine. Weighted valve lever when released lowers rolls to "feed" position. Springs keep feed rolls from dropping full length of cylinder stroke when machine is "empty."

This comparatively simple application may suggest how you can employ NOPAK Valves and Cylinders in your plant or product to actuate and control machine movements.

GALLAND-HENNING NOPAK DIVISION
2760 S. 31ST STREET • MILWAUKEE 46, WISCONSIN

Refer to Sweet's File for Product Designers or write for Bulletin SW-1.
Representatives in Principal Cities

NOPAK VALVES AND CYLINDERS
DESIGNED for AIR and HYDRAULIC SERVICE

If you write maker identify as IEN - 4971

—with the new **HEXACON**
FEATHERWEIGHT
MODEL 30H

So light its weight is hardly noticeable, but more powerful than its wattage rating indicates. Hatchet design makes it more comfortable and practical to use than a soldering pencil. No transformer required. Write for complete catalog.

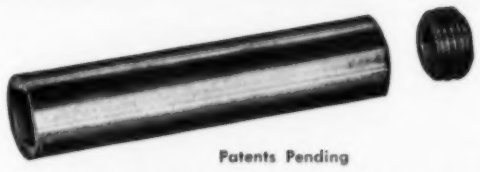
WEIGHT — 5⅓ OUNCES (LESS CORD); WATTS — 40 OR 60; TIP DIA. — BOTH ⅛" AND ¼" TIPS FURNISHED WITH EACH IRON; PRICE — $5.75

HEXACON ELECTRIC CO.
155 WEST CLAY AVE.
ROSELLE PARK, N. J.

HEXACON

If you write maker identify as IEN - 4972

How SQUARE HOLED SLEEVES SPEED UP TOOL-MAKING!


Patents Pending

One of the most difficult problems in tool making can be solved easily and quickly with Sturdy Square Holed Sleeves. The perfection of broached square holes can be had in boring bars, milling cutters and many other applications at a small fraction of the cost of imperfect hand-made square holes. The sturdy Square Holed Sleeve consists of a round sleeve with a perfectly square hole broached through the center. This hole is tapped at one end to receive a back-up screw which is furnished with the sleeve. The sleeve can be sweated or pressed into a drilled and reamed hole to make a perfectly square accurate hole in a very few minutes.

The sturdy Square Holed Sleeve will save you many hours and many dollars in the making of boring bars, tool holders and other tools requiring square holes.

SLEEVES MADE IN FOLLOWING SIZES:
3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8", 3/4", 1"

Write for Literature

STURDY BROACHING SERVICE
23516 TELEGRAPH ROAD, DETROIT 19, MICH.

If you write maker identify as IEN - 4973

Viscous Adhesive PUMPED 7 YEARS Without Repairs to VIKING PUMPS

Installed in 1945, in the industrial adhesive manufacturing plant of F. O. Findley Company, Milwaukee, these two Viking Pumps have given maximum service with minimum attention and without repair costs. They have handled thousands of barrels of adhesives with viscosities from 100 cps to 3000 cps, with temperature from 70 to 165 degrees F.

VIKING AN HONORED NAME IN PUMPING

If you have the problem of moving heavy, viscous liquids—or any other liquids—Viking experience is available to help you. Write for bulletin 538F.

See Our Catalog in SWEETS

Viking PUMP COMPANY
Cedar Falls, Iowa

If you write maker identify as IEN - 4974

AMES

No. 2 Dial Comparator

This is smallest in the Ames' line of high quality dial comparators. It is ideal for desk or bench use in the fine inspection of small precision parts. Light in weight, its broad base makes it very stable. The capacity approximates that of the regularly supplied Ames No. 202 Dial Indicator which has a 0-100 dial, graduated in .001", with a .250" range. If your job requirements differ, you can have the No. 2 with any Ames "Hundred Series" Dial Indicator. Send for details.

Send today for your free copy of Catalog No. 58

Representatives in principal cities. **B. C. AMES CO.** *33 Ames Street Waltham 54, Mass.*

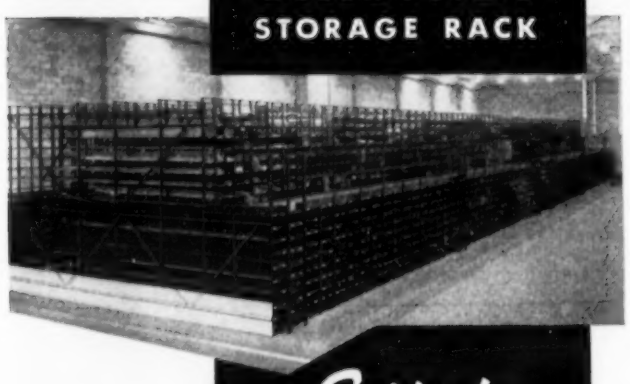
Mfgr. of Micrometer Dial Gauges • Micrometer Dial Indicators

If you write maker identify as IEN - 4975

DOUGLAS AIRCRAFT'S GIANT

UNISTRUT®

STORAGE RACK



Supports 4700 TONS of BAR STOCK!

Basic components of the UNISTRUT Metal Framing System

Solves complex problem of storing and handling bars, rounds, tubing in limited space. Installed quickly at low cost. Adjustable, re-usable and completely safe.

Inside the Douglas Aircraft Company's El Segundo, California plants are the largest UNISTRUT bar stock racks ever built. The one shown is 132' wide, over 25' deep and 14½' high. With 2376 compartments 9½" high by 12" wide, it has a total load capacity of 9,400,000 pounds!

UNISTRUT racking systems conserve space, cut handling expense and provide a construction material that can be re-used without additional investment. Adjustable UNISTRUT framing requires no drilling, welding, special tools or equipment.

WRITE TODAY...

for FREE copy of UNISTRUT Rack Catalog No. 600

Dept. D5

UNISTRUT PRODUCTS COMPANY
1013 W. Washington Blvd.
Chicago 7, Illinois

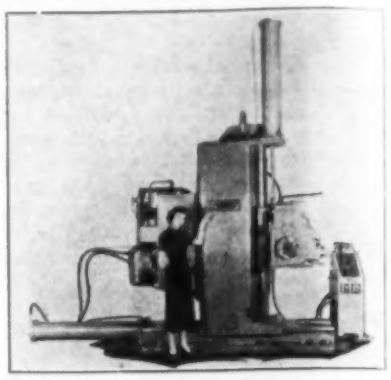
UNISTRUT

THE WORLD'S MOST FLEXIBLE ALL-PURPOSE METAL FRAMING

If you write maker identify as IEN - 4977

BORING . . Horizontal machine, template controlled for profiling

Source: FORNEY'S INC.
P. O. Box A-310, New Castle, Pa.



Built to order

Illustrated is new assembly of the company's horizontal boring and facing machine, previously described IEN-5137-51. Hydraulic cylinders replace the lead screws for the horizontal and vertical feed movements. A motor driven hydraulic power unit is mounted on the back of the housing with controls in a separate stand for template actuated follower controlled profile milling.

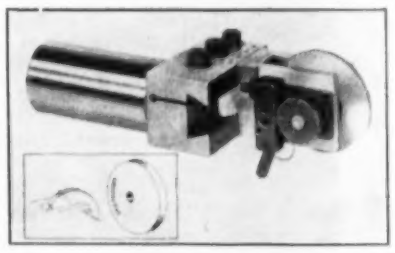
The machine is designed particularly for use on aluminum and magnesium castings and forgings and on cast and rolled armor plate to perform the otherwise difficult profile operations. It is shipped as a complete unit with specified workholding fixtures, tooling, templates and floor plates.

The standard assembly is adjustable through 36 in. on its base, has 24 in. of vertical movement from 23 in. between the spindle and the bottom of the base. The spindle measures 6 in. in diameter at its head and is motor driven, in connection with a combination clutch and brake and an 8-speed transmission for rotation, at 5 to 103 rpm. Rotating shafts are mounted on anti-friction bearings. Lubrication is by a pressure pump for cascade and gravity flow of oil from a reservoir in the head of the new machine.

If you write maker identify as IEN - 4978

MARKING . . Roll type tool to mark work face in a screw machine

Source: NEW METHOD STEEL STAMPS INC.
141-45 Jos. Campau St., Detroit 7, Mich.



Model 600-E

Engraved characters, subject to specification, follow a cam surface that provides for depth of impression adjustment on the rim of the tool steel disc of this new marking tool. The tool head rides in laterally adjustable ways on a 2-in. shank to fit into a screw machine turret. A single partial revolution, to make the impression, follows contact of the disc with the work. At the end of this movement, a ratchet engages the disc to hold it until the turret has been returned to near its fully retracted position. At this point a finger is tripped and a spring returns the disc to starting position.

Provision is made to remove the disc assembly and replace it with another when a work piece changes. The disc can be solid, as shown in the illustration, or can be designed to carry interchangeable type. Application can be made on the end face of parts in any diameter from 1½ in. minimum.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 4979

PAGE FENCE *-Since 1883*

• AMERICA'S FIRST WIRE FENCE •

EVERY STEP IS QUALITY CONTROLLED— FROM RAW METAL TO THE ERECTED FENCE

• Page *Chain Link* Fence, pioneered by PAGE and produced only by PAGE, offers reliable protection against hazards which threaten both property and persons.

YOUR CHOICE OF THREE SUPERIOR METALS is assurance that your fence will best meet your needs. Choose heavily-galvanized Copper Bearing Steel, or long-lasting Stainless Steel, or corrosion-resisting Aluminum. Interlocking wires are woven to form a strong, uniformly square mesh.

EIGHT BASIC STYLES, varied by choice of metals, wire gauges, heights, types of gates, posts and post tops, and top rails. Tension and fabric bands not removable from outside. Gate frames welded at joints.

IT'S TIME TO THINK, AND ACT. Page Fence is expertly erected by technically trained firms conveniently located throughout the country. For illustrated PAGE data and name of nearest firm . . .

Write to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, New York or San Francisco.

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

If you write maker identify as IEN - 4980

SPEED UP SMALL PARTS ASSEMBLY

Parts feed automatically toward front—end reaching and fumbling.

Bins taper toward front to form convenient semicircle—keep all bins within easy reach.

Stacking, locking construction for rigid set-ups, easily changed when necessary.

All-welded construction. Smooth, folded edges.

New-design, adjustable hoppers provide increased capacity and permit regulated flow of parts according to sizes and weights.

Two-sizes—tapered or straight sides.

IMMEDIATE DELIVERY

Manufactured and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa

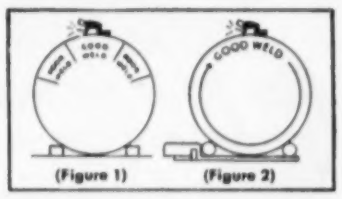
Write Stackbin Corp., 1077 Main Street, Pawtucket, R. I.

STACKBIN SYSTEM

"Stacked and Still Accessible"

If you write maker identify as IEN - 4981

How Worthington Turning Rolls insure BETTER WELDS



(Figure 1) (Figure 2)

Designed for use in welding cylindrical vessels of any size, Worthington Turning Rolls will insure the best possible weld while lowering costs and increasing footage up to 50%.

The above sketches show how. Unless work is turned continuously, good downhand welding is obtainable only in a small area (Fig. 1). With a Worthington Turning Roll, downhand welding is assured for the complete circumferential seam (either by manual or automatic welding) (Fig. 2).

Write for Bulletin 210-D. Worthington Corporation, Plainfield, New Jersey.

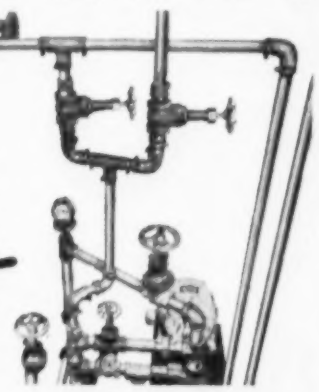
Y.2.2

WORTHINGTON

Welding Positioners—Turning Rolls

If you write maker identify as IEN - 4982

If you use TUBULAR STAINLESS—



WHETHER you process chemicals . . . pharmaceuticals . . . or use tubular stainless in your product . . . you'll find your every stainless tube or piping need in Frasse warehouse stock.

Pipe and tube, both seamless and welded, are carried in a complete range of sizes. Pipe is available in schedules 5, 10, 40 and 80. Valves, a complete assortment of threaded fittings—as well as the new threadless "Quikupl"—are equally handy from one convenient source—Frasse.

It's easier to work from complete Frasse stocks—gets the job done quicker too! For your tubular stainless—call Frasse first. Our latest inventory of stainless tube, pipe and fittings is available on request. Send for your copy today.

Call FRASSE 1st for STAINLESS STEEL PIPE • TUBE • VALVES • FITTINGS

Peter A. FRASSE and Co., Inc.

17 Grand Street, New York 13, N. Y.

Lyndhurst • Philadelphia • Buffalo • Syracuse

If you write maker identify as IEN - 4983

JOHNSON BEARINGS in over 900 standard sizes

• You can secure virtually any size sleeve bearing you need from your local Johnson Bearing Distributor. He handles the widest range of sizes on the market . . . from ¼ inch to 4½ inch ID, the wall thickness you need and the right length. You'll save time with Johnson General Purpose Cast Bronze Bearings . . . and save money, too.

JOHNSON BRONZE CO.
476 So. Mill St., New Castle, Pa.

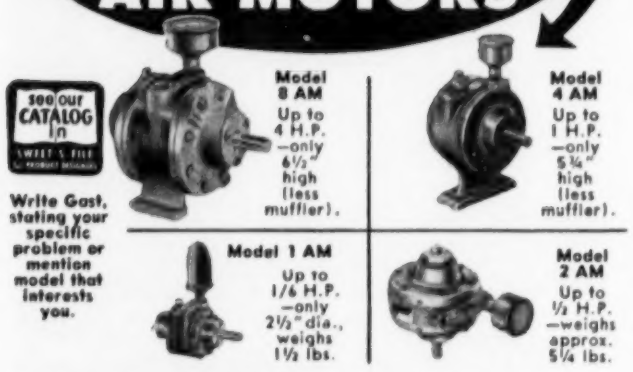
OTHER BEARING TYPES
Electric Motor • Graphited • Self-Lubricating Powder Metallurgy • Universal Bronze Bars • Babbitt.

JOHNSON B BEARINGS
Sleeve-Type

WRITE TODAY for your copy of the new catalog

If you write maker identify as IEN - 4984

Get astonishing POWER and other unique advantages with GAST rotary AIR MOTORS



See our CATALOG in SWEET'S FILE

Write Gast, stating your specific problem or mention model that interests you.

Model 8 AM — Up to 4 H.P. —only 6½" high (less muffler).

Model 4 AM — Up to 1 H.P. —only 5¼" high (less muffler).

Model 1 AM — Up to 1/6 H.P. —only 2½" dia., weighs 1½ lbs.

Model 2 AM — Up to ½ H.P. —weighs approx. 5¼ lbs.

FOR YOUR ORIGINAL EQUIPMENT APPLICATIONS . . .

Gast rotary-vane Air Motors may solve tough problems on **your** product! They're lower in first cost, variable in speed, explosion-proof, quick starting, **amazingly** compact and light compared to electric motors.

Four sizes available, reversible and non-reversible ball bearing types, several mounting styles, speeds to 12,000 RPM. Numerous accessories. "Air may be your Answer!"

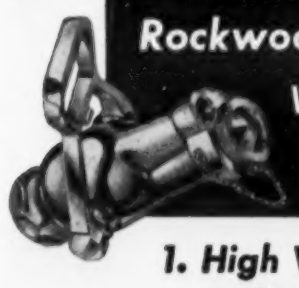
Original Equipment Manufacturers for over 25 years

GAST ROTARY — AIR MOTORS (TO THREE H.P.) · COMPRESSORS (TO 30 LBS.) · VACUUM PUMPS (TO 28 INCHES)
GAST MANUFACTURING CORP., 2190 Hiskley St., Benton Harbor, Mich.

If you write maker identify as IEN - 4985

3-Way FIRE PROTECTION

Rockwood Triple-Action WaterFOG Nozzle Discharges:



1. High Velocity WaterFOG
2. Straight Stream
3. Low Velocity WaterFOG

The Rockwood SG-48 WaterFOG Nozzle puts out fires in flammable liquids and ordinary combustibles faster and with less water. Protects operator from heat and fumes, is easier to handle — and operates efficiently with a water pressure of 50 p.s.i. at the nozzle. For chemical and industrial plants, oil refineries, public buildings, municipal fire departments, etc. Approved by Underwriters' Laboratories, Inc., and Factory Mutual Laboratories.

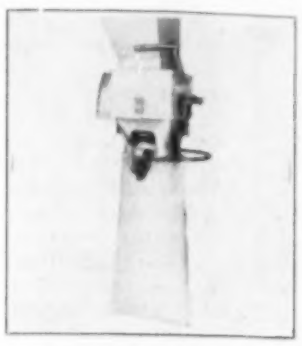
Bulletin C501 gives you complete information. Write for your copy.

ROCKWOOD SPRINKLER COMPANY
Engineers Water . . . to cut fire losses
40 Harlow Street, Worcester 5, Mass.

If you write maker identify as IEN - 4986

PACKAGING . . Bag filling scale handles 50 to 140 lb. open mouth bags

Source: RICHARDSON SCALE CO.
666-700 Van Houten Ave., Clifton, N. J.



No scale hopper

Chemical products, feed, fertilizer, are representative materials that can be filled by weight into open mouth bags with this new Gross Bagger. A bag is secured in place by a locking holder the same as that previously described IEN-5821-52, the bag serving as the weigh hopper.

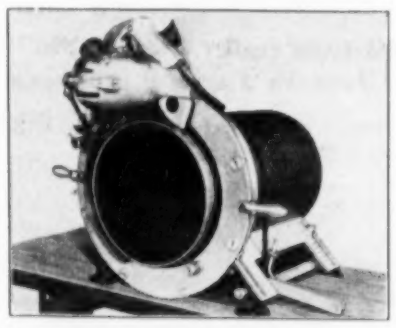
Filling is started when the operator pulls a handle, at the side of the assembly, to open a radial gate. When he releases the handle the material pours into the bag until it is within 4 lb. of being filled. At this point the radial gate closes. The operator adds the remaining small weight by jogging the handle to dribble a thin stream of the material through the gate into the bag. Finally he releases the bag by moving the semi-circular gripper bar.

Weight is checked on a large scale indicator on the side of the housing. It reads to within 0.5 ounce. Flow into the bag can be seen through a hand hole in the front of the spout. Excess material can be removed by hand through it.

If you write maker identify as IEN - 4987

CUTTING . . Abrasive disc machine clamps on pipe and cuts around it

Source: TRI-CLOVER MACHINE CO.
2807-11 60th St., Kenosha, Wis.



Ask for Bulletin 1252-B

Two sizes are included in new design of the Super Speed cutting machine, previously described IEN-4664-52. One rates ½ to 6-in. pipe or tube. The other will cut ½ to 12 in. diameters. Both operate on 110-volt ac. and employ abrasive discs to cut into and around the pipe. A cut is made straight through on pipe measuring 2 in. or less. Feed action is into the pipe and then around the mounting ring on larger sizes. List prices with six abrasive discs are about $404 and $441.

Identify as IEN - 4988

Ever watch a gathering of people, as in a plant meeting, try to find a place to dunk the ashes from their cigars and cigarettes? A chap from Lawrence Metal Products not only watched, he did something about it. His company is now supplying a chair back ash receiver. Bendix, DuPont, General Electric, General Motors, Westinghouse are using them. The receiver is removable from its holder for dumping. A back plate remains fixed to the chair.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 4989

For Access Panel and Door Assemblies

QUICK-LOCK speeds up mounting and demounting detachable panels. A 90° turn locks and unlocks it in a jiffy. Flexible mounting and tapered stud makes it ideal for assembling curved sheets and insures a tight fit when locked. Stud is self-ejecting when unlocked. Minimum deflection is assured—only initial loads are carried by the helical spring. Solid supports take up increased loads.

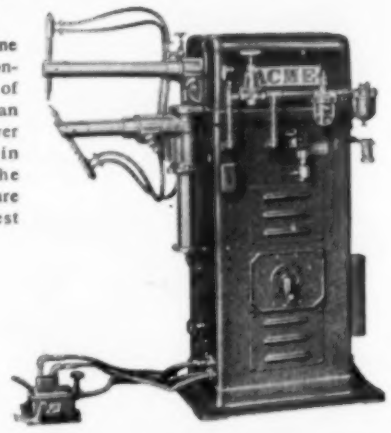
Call in a Simmons Engineer and compare QUICK-LOCK's economy with your present fastening method.

SIMMONS FASTENERS
SIMMONS FASTENER CORPORATION • 1758 NORTH BROADWAY, ALBANY, N.Y.

If you write maker identify as IEN - 4990

ACME

"Hot Spot" WELDERS



Here is a complete line of resistance welders, considered the "Cadillac" of its field—at a price you can afford, and backed by over 35 years of service in plants throughout the world. Write for literature or name of your nearest distributor.

- SPOT
- PRESS
- PROJECTION
- SEAM
- PORTABLE
- SPECIALS

ACME ELECTRIC WELDER CO.
2622 FRUITLAND AVE., LOS ANGELES 58, CALIF.

If you write maker identify as IEN - 4991

Really Free Turning
BALL BEARING SWIVEL FITTINGS

RAMSCO

FOR LIQUID GASES, STEAM, AND CHEMICALS. HOT OR COLD SERVICE. CONTINUOUS OR OCCASIONAL ROTATION.

360° FREE ROTATION—1, 2 AND 3 PLANES FITTINGS AND PRESSURES TO 15,000 P.S.I. AND TEMPERATURES TO 750° F.

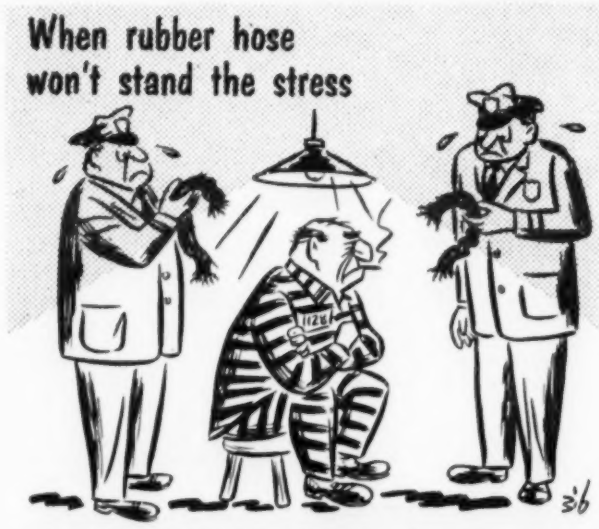
Over 500 sizes, types, styles. Low pressure fittings ⅜" to 14". High pressure and high temperature ⅜" to 6". Universal service (U. S. type) fittings and pressures to 1,000 psi. Temperatures to 750° F. asbestos packed. When packed with teflon ideal for corrosive service. Gear driven types for loading racks also available.

Send for complete catalog and prices. State kind of service, pressure, temperature, pipe size and indicate style at right, threaded, flanged or weld ends.

RAMSCO
RASMUSSEN MFG. CO.
12305 INDUSTRIAL AVENUE
HOLLYDALE, CALIFORNIA

If you write maker identify as IEN - 4992

When rubber hose won't stand the stress



check PACKLESS METAL HOSE address

FLEXIBLE METAL HOSE —

Available in Bronze, Carbon Steel and Stainless Steel for all conditions of flexing and vibration involving normal or extreme pressure, temperature or corrosion.

Write for literature.

PACKLESS METAL HOSE INC.
31-40 WINTHROP AVE. • NEW ROCHELLE, N. Y.

If you write maker identify as IEN - 4993

Complete Portable Steel Strapping Kit

New Acme Steel "Pony Pack" is lightweight, complete with tools for fast, low-cost strapping

Here's a handy, portable strapping outfit for fastening, re-coopering, securing, or reinforcing anything, anytime, anywhere.

It's Acme Steel's new "Pony Pack." Weighs about 20 pounds. Metal carrier contains 300-foot coil of Acme Steel Strapping, a stretching tool, sealing tool, seals and snips. For details, write Acme Steel Products Division, Dept. IEN-53, ACME STEEL COMPANY, 2840 Archer Ave., Chicago 8, Ill.

STRAP IT...STITCH IT...SHIP IT...SAFELY! **ACME STEEL**

If you write maker identify as IEN - 4994

CAPCO DOCK COVERS OFFER YEAR 'ROUND PROTECTION

Can be installed inside or outside of dock door . . . models for various purposes.

SOLD AT A LOW COST

...and the cost is especially low because it pays for itself many times...saves time and money over many years.

- PREVENTS ACCIDENTS
- ONE MAN CAN OPERATE
- FIREPROOF
- WATERPROOF
- DURABLE — LONG LIFE
- DEPENDABLE

BEAT THE BAD WEATHER

CAPCO Dock Covers completely enclose the space between car and building doorways, protecting loading and unloading during bad weather. Recommended by safety engineers. No more wet merchandise in the rain . . . no more interruption during winter. Here's your insurance against loss of either heat or refrigeration; you have practically the same as indoor loading.

CAPCO

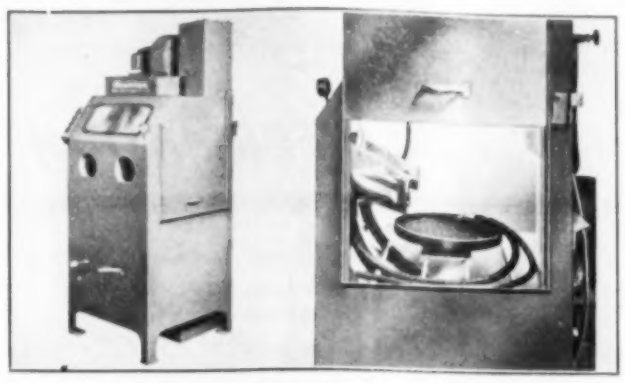
Be sure to write for illustrated literature and prices

622-24 PROSPECT AVENUE • KANSAS CITY 1, MISSOURI

If you write maker identify as IEN - 4996

CLEANING . . Wet abrasive machine for small work pieces, tools, dies

Source: AMERICAN WHEELABRATOR & EQUIP. CORP. 1119 S. Byrkit St., Mishawaka, Ind.



Knee operated valve controls action

Precision work with thin edges, sharp corners such as press dies, molds for manufacture of glass, rubber and plastic products, die castings, can be cleaned and surface finished in this new Model 30 Liquamatte machine. The work is positioned on a 15-in. rotating table by reaching it in through the arm openings or the slide door at the side. The operator inserts his gloved hands through the gauntlet equipped openings to manipulate the table and direct the wet abrasive blast through a nozzle.

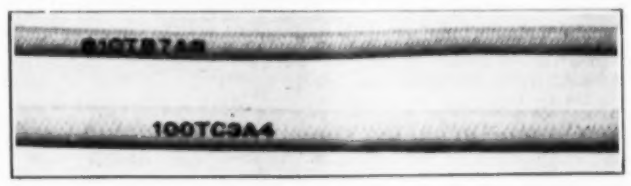
Abrasive, suspended in water, is propelled at the work by compressed air from a shop source. The abrasive is held in suspension and recirculated by a motor driven pump located to eliminate need for suction pipe, valves or fittings and so it will be continually primed. The pump impeller will not clog when the machine is shut down. It contains no packing glands.

The cleaning compartment measures 30 by 30 by 31 inches. The slide door is about 22 in. in width by 19 in. in height. The machine measures overall about 2½ by 2½ by 7 feet. Small portable auxiliary tanks are available to receive the cleaned work for rinsing.

If you write maker identify as IEN - 4997

MARKING . . Embossing service for insulated wire on contract basis

Source: RAM METER INC. 1102 Hilton Road, Ferndale 20, Mich.



Price quotation on request

The company announces development of a new machine with which it is prepared to hot-emboss black or white plastic code letters 1 in. from each end of a wire with additional imprints at intervals of 2 to 12 in. along the wire. The company will also cut the wire to any desired length from 2 in. to 12 feet. The service can be applied on any insulated wire from No. 20 to No. 4. Characters and spaces are maximum at 15 for sizes to No. 14. Twelve characters and spaces can be embossed on No. 12 to No. 4 wire.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 4998

GRIPPING FORCE 15 TIMES AIR LINE PRESSURE

Speedy Air Vise helps you do dozens of operations faster, better, cheaper—by air pressure! Foot control valve opens and shuts vise instantly, leaving *both* hands free to produce *more!* Jaw opens up to 3 inches, holds castings, parts, jigs, etc. Compact and trouble-free.

Complete with Foot Control, Air Hose and Fittings.....only **$36.00**

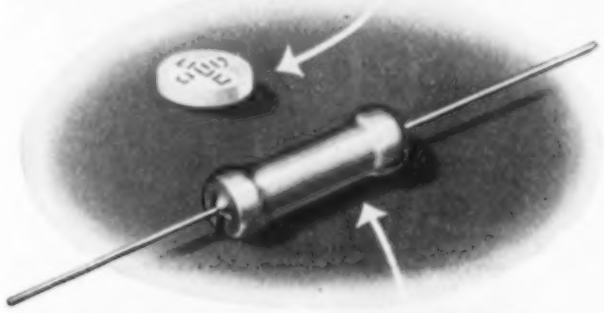
Prompt Delivery from Your Supplier or Write Direct

W. R. BROWN CORPORATION • 2645 N. Normandy Ave., Chicago 35, Ill.

AIR REGULATORS • AIR FILTERS • AIR GUNS • PORTABLE COMPRESSORS

If you write maker identify as IEN - 4999

SECOND best thing for INSTALLATION HEADACHES



Here's the FIRST!

THE small size of *Axiohm resistors* simplifies installation in radio, electronic and related equipment. These rugged miniature Vitrohm resistors are designed specifically for easy installation in circuits used in highly compact equipment. They are mounted without lugs, bolts or brackets on their own wire leads which are hot tin-dipped for ease of soldering. They are available in the following ratings and sizes:

5 watts, 1 to 10,000 ohms, 1" long • 10 watts, 1 to 50,000 ohms, 1¾" long

or custom built to your specifications

Write for Ward Leonard Catalog 15. • 33 South St., Mt. Vernon, N. Y.

WARD LEONARD ELECTRIC CO.

Result-Engineered Controls Since 1892

RHEOSTATS • RELAYS • MOTOR CONTROLS • CHROMASTER

If you write maker identify as IEN - 5000

IT'S SUPERSAFE!

THE *New* IDEAL Voltage Tester

Every feature thousands of electrical men said they wanted including:

New... **Handier center prod mount**
Prod storage shields tips
Double strength seamless plastic case--no surface metal

PLUS **"DOUBLE PROTECTION"**

. . . a solenoid, calibrated indicator, AND a neon test lamp, each independent of the other. YOU CAN'T FAIL TO DETECT VOLTAGE! . . . Also many other time-proven IDEAL advantages.

Tests 110 to 550 volts AC—110 to 600 volts DC

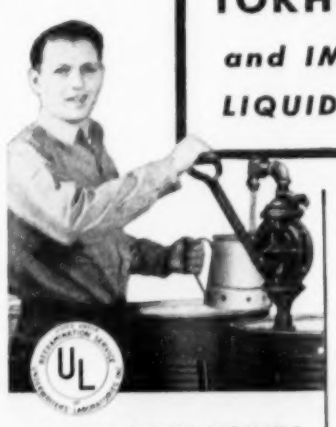
SOLD THROUGH LEADING DISTRIBUTORS. SEE IT NOW

IDEAL INDUSTRIES, Inc.
110b Park Avenue, Sycamore, Illinois
Please send me full catalog information on new IDEAL Voltage Tester.

Name_____
Company_____
Address_____
City_____ Zone____ State_____

If you write maker identify as IEN - 5001

"We chose TOKHEIM PUMPS and IMPROVED OUR LIQUID HANDLING!"



PUMPS MANY LIQUIDS

Alcohols—ammonia—cutting and flushing oils—lacquer thinners—aromatic, chlorinated and petroleum solvents—wood and vegetable oils—and others.

It pays to standardize on TOKHEIM Hand Pumps. They have no equal for safe, easy handling of liquids. Stop wasteful dripping. Reduce fire and accident hazards. Save on drum storage space. Handle a wide variety of products. Available in hose and spout models—for drums, skid tanks and underground installations. Call your dealer or your Tokheim representative.

Write factory for literature.

TOKHEIM DOUBLE-ACTION HAND PUMPS

General Products Division

TOKHEIM OIL TANK AND PUMP COMPANY
DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT
1654 WABASH AVE. SINCE 1901 FORT WAYNE 1, IND.
Factory Branch: 1309 Howard St., San Francisco 3, Calif.

If you write maker identify as IEN - 5002

BECKER CO_2-POWERED SPRAY GUN

NO COMPRESSOR • NO HOSES
NO ELECTRICAL OUTLETS

USE IT ANYWHERE!

Here's a completely portable sprayer especially designed for the hundreds of industrial uses where costly, cumbersome compressor-type spraying is unnecessary. Sprays paints, oils, varnishes, water-proofing, fire-proofing, etc. Powerful CO_2 cartridge sprays up to one 21 oz. containerful at high pressure. Light in weight for easier spraying. Has brass and stainless inserts, heavy-gauge steel container, comfortable knurled handle grip, and cast aluminum head.

SEE YOUR DISTRIBUTOR or order direct postpaid. Extra CO_2 cartridges at your dealer's or 10 for $1 postpaid.

SULLIVAN-BECKER CO., Dept. 193-E, Kenosha, Wisconsin

If you write maker identify as IEN - 5003

New SELF-POWERED SCRUBBER-VAC

Cleans Vast-Area Floors "By the Mile"

Operating independent of power lines, *Finnell's 218G Gasoline-Powered Combination Scrubber-Vac* is free to go wherever the operator guides it . . . working in and out of production areas with ease . . . *scrubbing continuously.* Applies the cleanser, scrubs, and picks up—*all in one operation.* Cleans up to 16,000 sq. ft. per hour! All working parts are operated by *one* engine (2 cyl., 4 cycle, 9.4 hp.). Brush spread, 36". For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 2605 East St., Elkhart, Ind.

FINNELL SYSTEM, INC.
Originators of Power Scrubbing and Polishing Machines
50th FINNELL Anniversary
BRANCHES IN ALL PRINCIPAL CITIES

If you write maker identify as IEN - 5004

Two Fuller two-stage compressors in a steel mill. Capacity each, 1660 c.f.m., 125 lb. pressure.

AIR ISN'T FREE!
but with FULLER rotary compressors
IT NEED NOT BE COSTLY

Fuller Rotary Compressors are built to provide a lifetime of new machine efficiency. They're sturdy, dependable . . . and because they have a minimum of moving parts—rotor, bearings, blades—they require minimum attention. There are no valves to leak, no seats to grind, and blades automatically compensate for wear. No detail has been overlooked that makes for long-term, trouble-free service, at the lowest possible maintenance and operating costs.

Have a Fuller engineer show you how they pay off in dependable service and long life.

FULLER COMPANY—CATASAUQUA, PA.

Branch Offices
Chicago • San Francisco • Los Angeles • Seattle • Birmingham

C-233A—2059

Fuller PIONEERS OF HIGH-EFFICIENCY VANE TYPE ROTARY COMPRESSORS

USEFUL INFORMATION

NEWS NOTES

If you write maker identify as IEN - 5005

ALUMINUM . . Handbook of 152 pages on sheet and plate alloys, fabrication, finishing

Kaiser Aluminum & Chemical Sales Inc.
1922-26 Broadway, Oakland 12, Calif.

Properties, production, available alloys, fabricating methods, finishing, and a set of tables comprise new "Sheet and Plate Handbook". The section on fabrication describes cutting, forming, joining methods with recommendations on equipment used. Tables include sizes, weights, corrosion resistance.

If you write maker identify as IEN - 5006

CALCULATING . . Electronic machines handle numerical data at 16,000 operations per second.

International Business Machines Corp.
590 Madison Ave., 18th Floor, New York 22, N. Y.

Color pictures are employed in new 12-page Bulletin 52-4197 to show new Type-701 electronic data processing machines. These machines store numerical information in electrostatic tubes, magnetic drums or magnetic tapes. They feed it into a binary computer which adds or subtracts at 16,000 operations per second, multiplies or divides at 2,000 operations per second. Output can be on a tape, drum, printed or punched card.

If you write maker identify as IEN - 5007

CALCULATING . . Conversion factors, formulae and rules in new six-page pocket folder

Pangborn Corp.
230 Pangborn Blvd., Hagerstown, Md.

"Desk Calculator" assembles information on geometric forms such as circles, squares, cylinders, spheres. It gives measures and equivalents of pressure, tells how to find capacity of a tank, tabulates metric and English conversion factors. It also gives formulae used in dust-collector work, tables of blast-cleaning abrasive sizes.

If you write maker identify as IEN - 5008

CRANES . . Operator instruction manual on how to run an electric overhead traveling crane

Electric Controller & Mfg. Co.
2704 E. 79th St., Cleveland 4, Ohio

New Fifth Printing is announced for Booklet 920, the company's 48-page instruction manual titled "How to Operate a Crane". Single copies are available on request. The manual describes crane movements, hoisting hints, limit stops, trolley tips, bridge cues, coordinating movements, magnet aids. It includes safety rules and an inspection guide.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5009

MERRILL MATERIALS HANDLING DEVICES

3-M-2

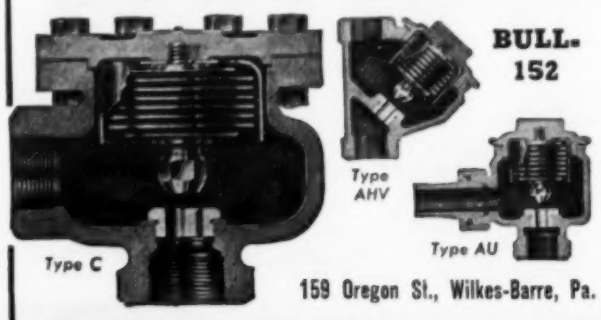
MERRILL BROTHERS
56-14 ARNOLD AVENUE MASPETH, N. Y.

If you write maker identify as IEN - 5010

Nicholson Steam Traps

CUT THIS HEAT-UP CYCLE 40%

An Eastern processor solved the freeze-up problem on their jacketed kettles by replacing mechanical traps with Nicholson thermostatic units. In addition they found heating time was shortened 40%. Credit is given the higher, more even temperature which Nicholson traps effect. See why leading plants are increasingly standardizing on Nicholsons for faster heat transfer. 5 types: size ¼" to 2"; press. to 250 lbs.

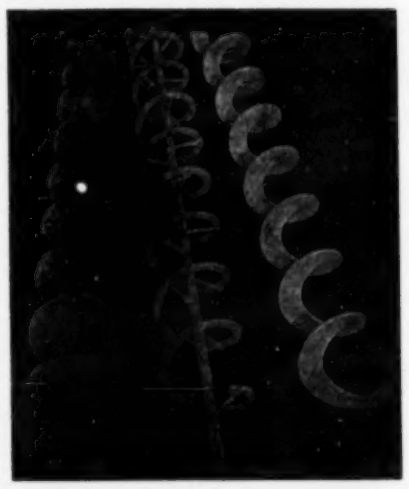


159 Oregon St., Wilkes-Barre, Pa.

W. H. NICHOLSON & CO.
TRAPS · VALVES · FLOATS

If you write maker identify as IEN - 5011

WORMS AND SPIRALS
to bore, convey, extrude, feed, process



Let us make them for you to your specifications or Supply them from stock in standard designs immediately

Send your blueprints for quotation

JAMES EAGEN & SONS
WEST WYOMING, PA.

If you write maker identify as IEN - 5012

NOLAN ONE-MAN CAR DOOR OPENER

Opens Doors in 20 seconds or less!

The Nolan Car Door Opener gives one man a tremendous amount of pulling energy, to get the most stubborn, hard-rolling door wide open in a hurry! New chain has 2000 lbs. tensile strength.

No gangs needed. No mangled limbs or loss of life. A few quick pulls on anchor chain gets any door open in a jiffy. The NOLAN saves its low initial cost in first hour of operation.

New safety features make the Nolan 1-Man Car Door Opener a more necessary labor-saving, money-saving help than ever before.

MANY THOUSANDS IN CONSTANT DAILY USE! FREE LITERATURE.

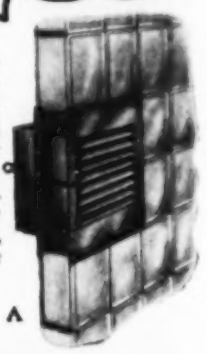
Order one or more NOLAN Model-H Car Door Openers now. Catalog on request.

$37.50 F.O.B. Bowerston

THE NOLAN COMPANY • 114-C Pennsylvania St., Bowerston, Ohio

If you write maker identify as IEN - 5013

Perk up- fresh up- with F A I- fresh air inside! Get efficiency with economy by installing MUCKLE FRESH AIR INTAKES — they'll supply fresh, filtered air to each room and condition your plant for *top* efficiency without the expense of costly distribution ducts. Muckle Intakes contain inverted v baffels to arrest direct blow through, oiled spun glass filters and adjustable closing louvers on inside.



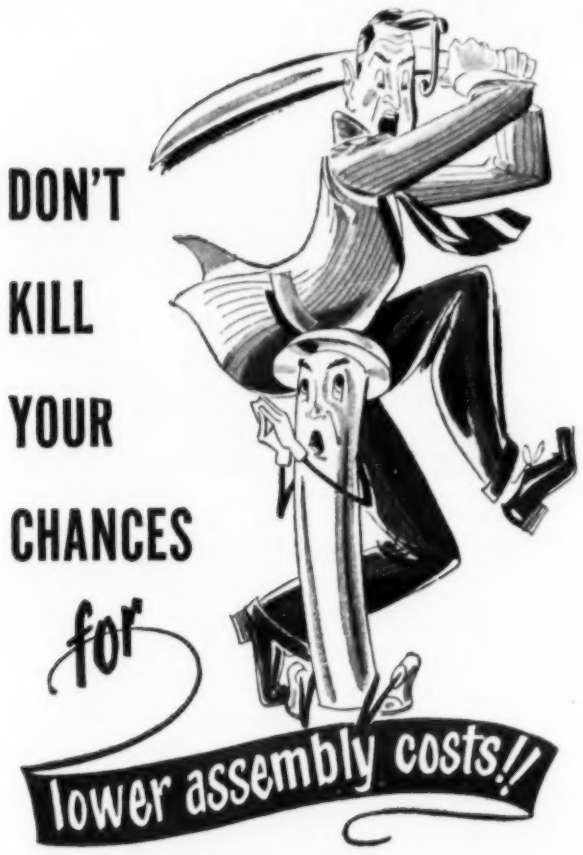
Model A fits easily into glass block construction by removing 4 blocks. Model B fits any wall thickness. Both models have air opening of 10" x 14" and pass 1000 CFM at .0625" static air pressure.

Muckle

WRITE TODAY
For complete information on Muckle Fresh Air Intakes.

MANUFACTURING CO., OWATONNA 33, MINNESOTA

If you write maker identify as IEN - 5014



Before you tie up funds in costly tools and dies, have Milford fastener-engineers analyze your product assembly need . . . at the design stage, while plans are still flexible. It will save you money and headaches, reduce production expense, speed up assembly time, and aid you in making a better product . . . perhaps at a competitive price advantage! You can put these savings in your pocket by sending drawings and detailed description of your product fastening problem for Milford's scientific solution.

Write for your copy of the "Milford Method for solving industry's fastening problems".

EST. 1919

MILFORD

the name to rivet in your memory for fasteners

THE MILFORD RIVET & MACHINE CO.

927 Bridgeport Avenue, Milford, Conn.
876 Illinois Ave., Aurora, Ill.
1156 W. Rivet St., Elyria, Ohio
76 Platt Street, Hatboro, Penna.
751 So. Palm Ave., Alhambra, Calif.

USEFUL INFORMATION
(Continued)

If you write maker identify as IEN - 5016

CELLULOSE . . As a chemical is described in new 386-page book on development

Doubleday & Co.
503 Franklin Ave., Garden City, N. Y.

"Oldest Material—Newest Uses" is first chapter in new book, "Cellulose—the Chemical that Grows". List price is $4. The book tells how cellulose became a chemical, traces development of derivatives such as rayon, plastics, lacquers, explosives, sponge, adhesives. It makes interesting reading.

If you write maker identify as IEN - 5017

CUTTING TOOLS . . 308 page catalog gives application data on drills, taps, cutters

Morse Twist Drill & Mfg. Co.
161-65 Pleasant St., New Bedford, Mass.

Tools are grouped in new Catalog 87 by physical or functional characteristics as the user might select them. They include drills, reamers, counterbores, milling cutters, taps, dies, arbors. A 52-page section of data gives tapers and angles, feeds and speeds, tool grinding suggestions, thread dimensions. The catalog is available on request to qualified individuals.

If you write maker identify as IEN - 5018

DRAFTING . . Eliminate unnecessary work urges 166-page textbook on industrial drafting methods

John Wiley & Sons Inc.
440 Fourth Ave., New York 16, N. Y.

"Simplified Drafting Practice" is intended to bring you up to date on methods of making clear accurate drawings in a minimum of time. Simplification of delineation, elimination of non-essentials, extensive use of freehand drawing are some of the principles presented. Use of symbols, mechanical aids, abbreviations, arrowless dimensioning, lettering, tolerances, are typical chapter headings. List price is $5.

If you write maker identify as IEN - 5019

FASTENINGS . . Self locking nuts and pins answer design problems illustrated in 32 page booklet

Elastic Stop Nut Corp.
2328-32 Vauxhall Road, Union, N. J.

Problem and solution method of presentation is followed for a variety of product designs involving fastenings by new "Fastener Problems of the Month". The booklet is a collection of advertisements that show how standard and special self-locking nuts and drive pins have been used along with reasons why. Purpose is to suggest possible use in your own work.

If you write maker identify as IEN - 5020

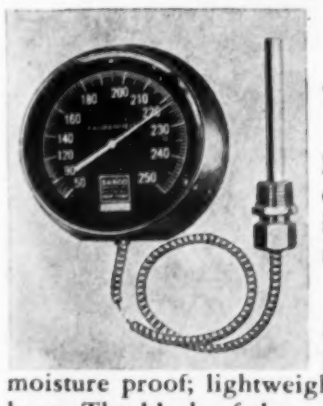
FORGING . . Carbide cold heading dies are machineable to shape; instruction booklet tells how

Carboloy Dept., General Electric Co.
11167 E. 8-Mile Road, Detroit 32, Mich.

New Grade-190 tungsten carbide is supplied as rough-cored nibs in 31 stock hole sizes for cold heading bolts, screws and rivets. The material can be drilled and turned with tools of a harder carbide. Die Manual D-131, 12 pages, contains suggestions on heading die design, machining instructions, case preparation, and a press-fit nomograph.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5021



NEW DIAL THERMOMETERS

Important advantages are claimed for a new line of inexpensive Dial Thermometers.

The case is made of corrosion-resistant phenol plastic, fume, acid and moisture proof; lightweight, and will not warp or burn. The black of the case is the plastic itself; it cannot wear off. Arranged with bottom or back connection for wall or flush mounting at same price.

The dial is dull black finish with white lines and figures and white, wedge shape pointer. This combination eliminates glare and assures highest visibility in any light.

The dial is covered with plate glass, held in position by a brass retainer ring.

The system—The pointer is actuated by vapor pressure developed in the bulb when heated. Seven standard ranges are available, for temperatures from minus 20°F. to 350°F. Write for Catalog 1100-2. *Sarco Company, Inc., Empire State Bldg., New York 1, N. Y.* *Advt. 603*

If you write maker identify as IEN - 5022

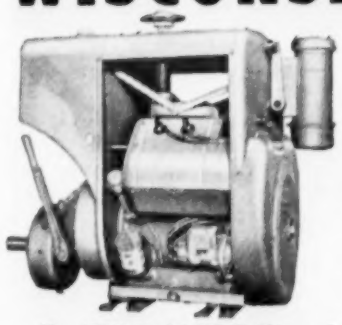
A major advance in fork truck design. Mercury "Yak" 430 incorporates . . . higher maximum fork elevation • increased free lift • greater speed • lighter chassis weight • shorter turning radius • simple *low pressure* hydraulic hoist system • new unit drive with quick detachable motor and self-energizing hydraulic brakes • new compensating castor type steering axle • Timken duo-grip parking brake actuated by driver's seat.

MERCURY MANUFACTURING CO.
4132 S. Halstead Street, Chicago 9, Illinois

If you write maker identify as IEN - 5023

If you write maker identify as IEN - 5024

a Bigger, Better
WISCONSIN HEAVY-DUTY *Air-Cooled* **ENGINE**



The NEW Model
VG4D
25 to 36 H. P.

16% More Power For Your Equipment

The NEW Model VG4D V-type 4-cylinder Wisconsin Heavy-Duty Air-Cooled Engine delivers 36 hp. at 2200 r.p.m., providing a power gain of more than 16% over the VP4D, former top engine in the line.

It is an exceptionally smooth-running, even-firing engine and its light weight and compact design simplify the problem of engine installation on modern equipment where weight and space limitations are important factors.

All traditional Wisconsin heavy-duty construction and service features are built into this new model for maximum power per pound of engine weight, at minimum operating and maintenance costs. For detailed data write for Bulletin S-143.

MORE *Power* TO FIT THE JOB

MORE *Power* TO FIT THE MACHINE

MOST H.P. HOURS

WISCONSIN MOTOR CORPORATION
World's Largest Builders of Heavy-Duty Air-Cooled Engines
MILWAUKEE 46, WISCONSIN

If you write maker identify as IEN - 5025

DELAVAN TYPE WSS SPRAY NOZZLE

—ideal for

COOLING TOWERS
BRINE SPRAYS
SPRAY WASHING
AERATING
GRAVEL WASHING
COAL WASHING

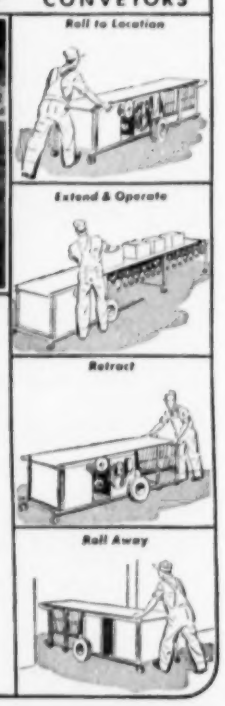
—and many other industrial uses.

Write for Catalog 31

DELAVAN MANUFACTURING CO.
GRAND AVENUE & 4TH STREET
WEST DES MOINES, IOWA

If you write maker identify as IEN - 5026

MODERN TIME AND COST SAVERS BUILT BY... Standard GRAVITY & POWER CONVEYORS



SAVE TIME
LOADING — UNLOADING
WITH THE
E-X-T-E-N-D-O-V-E-Y-O-R

This compact, mobile, easily maneuverable power-belt conveyor unit extends to 46 ft. in either direction and retacts to 9 ft. 10 in. Reaches into cars, trucks, trailers. Handles boxes, bags, bundles, cartons, crates, cases weighing up to 150 lbs. Available in two models — 1 way stretch and 2 way stretch — and 4 sizes. Write for Extendoveyor Bulletin—Dept. IEN-5B.

STANDARD CONVEYOR COMPANY
General Offices: North St. Paul 9, Minn.
Sales and Service in Principal Cities

If you write maker identify as IEN - 5027

Couch Phones Pay Dividends

If you are fed up with busy signals, excessive switchboard traffic, high phone bills, and time-wasting non-business calls . . . Couch Phones offer a solution. Expensive? No . . . not when you consider that you are now paying for them many times over through these same high phone bills and lost time due to busy signals and personal calls.

Couch Autophones combine privacy with the convenience of individual dial operation; and their original cost is the last cost. Investigate the advantages of Couch Inter-com Phone Systems. Write today for Bulletin 5282.

H. Couch Company, Inc.
NORTH QUINCY 71, MASSACHUSETTS

USEFUL INFORMATION
(*Continued*)

If you write maker identify as IEN - 5028

GRINDING MACHINES . . Picture tour through company's new seven-acre grinding machine plant

Norton Co.
36 New Bond St., Worcester 6, Mass.

People and facilities are pictured in a new 30-page booklet, "Tomorrow Is Already Here", which provides an illustrated tour through the company's new machine-tool plant. A simplified flow chart shows straight-line flow employed. Machining and assembly operations, gage inspection, and even the spotless cafeteria are shown.

If you write maker identify as IEN - 5029

LUBRICATING . . Six-point procedure on how to set up a simplified plant lubrication program

Pure Oil Co.
33-37 E. Wacker Drive, Chicago 1, Ill.

Six steps are described in new 12-page "How to Simplify and Save" booklet on plant lubrication. They range from making a survey to determine requirements, to maintenance of accurate records. The booklet suggests six general types of lubricants that will do the job for an average plant.

If you write maker identify as IEN - 5030

MANAGEMENT . . Associates, not employees, is the name for personnel at this aircraft parts plant

Longren Aircraft Co.
2574-78 W. Carson St., Torrance, Calif.

"The Longren Story" is 24-page booklet that tells how management and labor work together in an enlightened industrial relations plan. Part of it is production bonuses, part of it is teamwork, part is facilities. The booklet names a number of "impossible" jobs made possible by the combination.

If you write maker identify as IEN - 5031

MANAGEMENT . . Story of a company tells about its growth from a personal viewpoint

Norton Co.
36 New Bond St., Worcester 6, Mass.

People and products rather than facts and figures are emphasized in new 324-page book, "The Norton Story", which the company has published for distribution to its employees. The story starts with a pottery business, tells how the company got into the grinding-wheel business, development of these wheels, machines and other products. List price is $3.75.

If you write maker identify as IEN - 5032

MATERIAL HANDLING . . 600-page book is intended as a reference guide on current practice

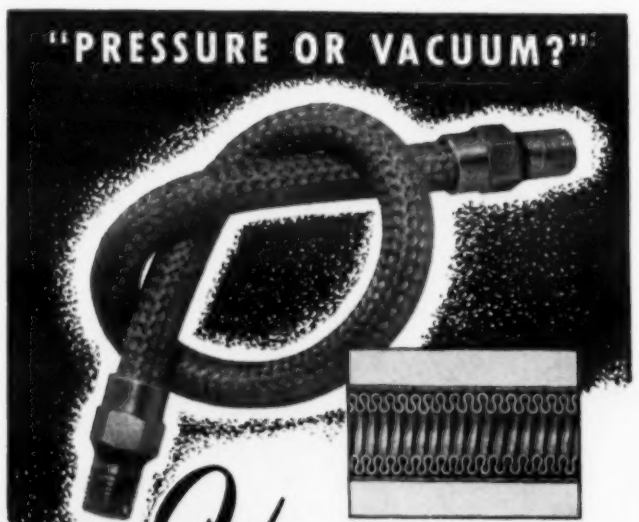
McGraw-Hill Book Co.
330 W. 42nd St., New York 36, N. Y.

Actual practice is the basis for new book, "Material Handling", written by Prof. John R. Immer of American University. List price is $8. The book covers specific methods and also the underlying characteristics common to many handling problems. Major topics include motion and time study, materials handling equipment, packaging methods and materials, analysis of a handling problem, organization.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5033

"PRESSURE OR VACUUM?"



Johnson FLEXIBLE SEAMLESS METAL HOSE

FOR CONVEYING UNDER PRESSURE OR VACUUM
STEAM • OIL • WATER • GAS • REFRIGERANTS

MANUFACTURED FROM SEAMLESS TUBING WITHOUT JOINTS, WELDS OR PACKING, WITH HEATPROOF FITTINGS ATTACHED • FOR HOT OR COLD APPLICATIONS

WRITE FOR BULLETIN J-3

JOHNSON METAL HOSE, INC.
P. O. BOX 952 • WATERBURY 20, CONN.

If you write maker identify as IEN - 5034

Get Quick Relief from air venting headaches!

USE Armstrong Ball Float Air Relief Traps for venting air from hot water heating and supply systems or for venting any gas from any liquid.

They're less trouble, fuss and worry. They get rid of air fast —always work. Wear and corrosion resistant chrome and stainless steel inner parts mean long life and negligible maintenance.

A size and style for every requirement. Satisfaction guaranteed or your money back.

Good Air Relief Traps by the Makers of the widely used Armstrong Steam Traps.

Send today for free Air Relief Trap Bulletin.

ARMSTRONG MACHINE WORKS
888 Maple Street • Three Rivers, Michigan

If you write maker identify as IEN - 5035

STAHMER WOOD SOLE Safety SHOES

Steel Mill Shoe Style 250 — Meat Packers' Shoe Style 215 — Chemical Plant Shoe Style 1230
Oil Refiners' Shoe Style 203 — Shower Sandals — Hot-Foot Sandal Fits over regular shoe

PROVIDE UNEQUALED PROTECTION

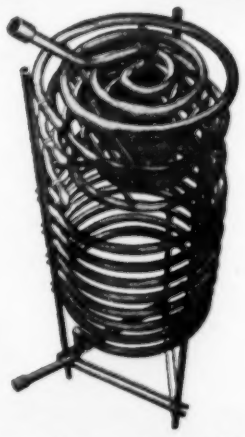
Stahmer Wood Sole Safety Shoes with genuine leather uppers are resistant to cold, heat, water, dust, oil and acid. Superior to leather and rubber in many industrial operations. Healthier employees. AVOID SLIPPING. They cost less and wear much longer. Sizes for men and women—5 to 12. Safety steel toe optional.

Send for catalog

STAHMER SHOE CO.
Established 1900 DAVENPORT 11, IOWA

If you write maker identify as IEN - 5036

PITTSBURGH a air p pressure t tested COILS



Built for your particular needs. Send blue print or rough sketch for Pittsburgh quotation. Also air-pressure tested Welded Headers, Welded Ammonia Receivers, Accumulators, Pipe Coils, Bends, Boiler Tubes. "Let us quote!"

Pittsburgh Pipe Coil & Bending Company
Division of Pittsburgh Standard Conduit Co.
61 BRIDGE STREET ETNA, PITTSBURGH 23, PA.

If you write maker identify as IEN - 5037

WICKWIRE ROPE SLINGS

in braided and single part construction

Braided slings made by Wickwire give you these advantages:

- Extreme flexibility
- Non-kinking properties
- Better conformation to irregular surfaces
- More even load distribution
- Will not take a permanent set

Write or call our nearest sales office for full details.

THE COLORADO FUEL AND IRON CORP.—Abilene (Tex.) • Denver Houston • Odessa (Tex.) • Phoenix • Salt Lake City • Tulsa
THE CALIFORNIA WIRE CLOTH CORP.—Los Angeles • Oakland Portland • San Francisco • Seattle • Spokane
WICKWIRE SPENCER STEEL DIVISION—Boston • Buffalo • Chattanooga Chicago • Detroit • Emlenton (Pa.) • Philadelphia • New York

WICKWIRE ROPE
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION

4340

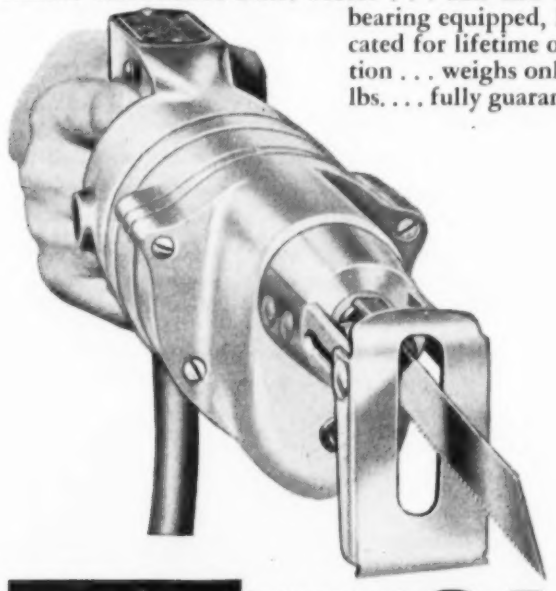
If you write maker identify as IEN - 5038

Cut Maintenance Costs with Milwaukee SAWZALL

Not an attachment, but the NEW single unit, heavy-duty

PORTABLE ELECTRIC HACKSAW

Saws *any* material . . . hundreds of new uses in shop, factory, and on the job . . . cuts maintenance cost up to 78% . . . pays for itself quickly. Powered for toughest jobs with famous Milwaukee-Built Motor . . . ball and roller bearing equipped, lubricated for lifetime operation . . . weighs only 6¾ lbs. . . . fully guaranteed.



Complete with Steel Carrying Case and Blades for cutting all materials. . . . **$84.50**

Speediest and safest method of opening crates. Breezes through nails and metal bands. Leaves crates in perfect condition for re-use.

Also ideal for accurate cutting of sheet metal, including corrugated aluminum. In plant maintenance, Milwaukee SAWZALL saves up to 78% of labor cost.

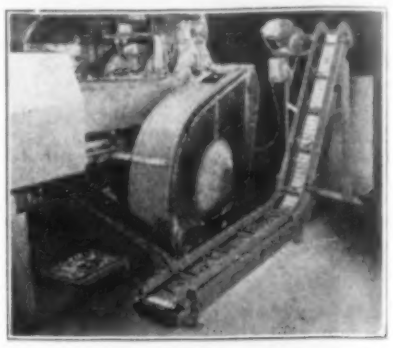
Call your Distributor. If he cannot supply you, write us for Folder SW-5, and advise name of your Distributor.

MILWAUKEE ELECTRIC TOOL CORP.
Portable Electric Drills, Saws, Screwdrivers, Hammers, Aerial and Bench Grinders, Sanders and Polishers.
5360 WEST STATE STREET • MILWAUKEE 8, WISCONSIN
Canadian Distributor: MATTHEW MOODY & SONS CO., Montreal

If you write maker identify as IEN - 5040

CONVEYING . . Metal flight assembly to handle work from under a machine

Source: STEEL PRODUCTS FABRICATORS
12030-34 S. Emerald Ave., Chicago 28, Ill.



For work removal

Erko **Pick-Up** conveyor is a new motor driven unit to apply back of a machine. It receives finished product pieces from the machine, conveys them horizontally and then upward to an elevated position for discharge into a container or onto a conveyor line. The conveyor is self-contained and can be moved and set up from one machine to another. It is available in specified dimensions and work handling capacities. It can be equipped with a constant or variable speed drive to meet given conditions.

If you write maker identify as IEN - 5041

WATERPROOFING . . Fluid materials for use on masonry walls below grade

Source: REARDON CO.
7503 Page Blvd., St. Louis 14, Mo.

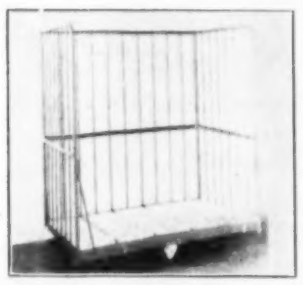
Available in three forms

Bondex paint for dampness control, Bondex Heavy Duty for serious moisture control, and Quick Plug, a fast setting patching material for breaks in masonry walls, are recently improved products in the Bondex line, previously described IEN-3362-46. The fluid materials penetrate into the pores of a masonry wall to seal against leakage. Application imparts a white coating to the wall surface on either interior or exterior application. It dries to an even sand like finish hiding cracks, mortar joints, rough spots, form marks and bars the entrance of water or dampness.

If you write maker identify as IEN - 5042

TRUCK . . Hand platform design, semi-enclosed for light packages

Source: LEEBAW MFG. CO.
63-67 Wayne St., Youngstown 2, Ohio



Shelf can be added

New truck is mounted on two 5-in. rigid casters at the center and two 4-in. swivel units, one at each end. It is equipped with a three-sided enclosure in which light weight packages can be stacked. The removable wood floor slopes toward the enclosed side. The frame is made of steel in welded construction.

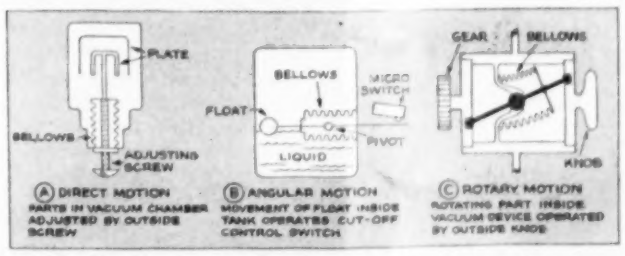
Inside dimensions range from 27 by 53 to 35 by 60 inches. Height above casters is 60 inches. Special sizes are available.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5043

A PAID NEWS ADVERTISEMENT BY CLIFFORD MFG. CO.

MOTION TRANSFER . . . from one medium to another, through hermetic seal accomplished by bellows.



Transmitting motion from one medium to another without disturbing seal is accomplished by flexible, leakproof bellows seal

Because Clifford Bellows are inherently leakproof and flexible, they can be employed to permit extension, retraction, rotary motion or combinations of the three motions to be transmitted through a hermetic seal. As shown above the bellows permits the motions required while hermetically sealing each unit's internal elements.

Thus Clifford Bellows equipment was called upon by Jennings Radio Manufacturing Company to move a variable plate in a vacuum capacitor. The Watts Regulator Company uses them to transmit angular motion for a low-water cut-off. The Kearfott Corporation uses Clifford Bellows for hermetic, flexible seals which transmit rotary motion from exterior to interior in high vacuum systems. Clifford is glad to answer your questions or provide "bellows-engineering" help.

Write for bulletin: "What To Consider When Selecting Metallic Bellows."

CLIFFORD MANUFACTURING COMPANY
146 Grove St., Waltham 54, Mass.
Division of Standard-Thomson Corporation

If you write maker identify as IEN - 5044

di-acro PUNCH

NEW DOUBLE PURPOSE PRESS

Available in two sizes 6" and 12" throat depth

Now you can punch holes of various shapes as large as 4" diameter in 16 gauge steel—also blank, draw, emboss, form,—all with the new DI-ACRO Punch. It is ideal for both experimental and production work.

The precision ground triangular ram of this double purpose press prevents punch head from turning, assuring perfect alignment at all times.

A Turret Stripper of exclusive DI-ACRO design automatically strips material from punches of all shapes. Roller Bearing cam action develops 4-ton pressure with minimum effort. Adjustable gauges assure exact location of holes.

Send for **"DIE-LESS DUPLICATING"** *Catalog*

Gives the full story of the DI-ACRO Punch, and also DI-ACRO Benders, Brakes, Shears, Rod Parters, Notchers, as well as the new DI-ACRO Vari-O-Speed Powershear and Hydra-Power Bender.

DI-ACRO is pronounced "DIE-ACK-RO"

DI-ACRO PRECISION MACHINES DIE-LESS DUPLICATING
O'NEIL-IRWIN MFG. CO.
318 EIGHTH AVENUE • LAKE CITY, MINN.

If you write maker identify as IEN - 5045

7 to 17 feet in 25 seconds!

HERE'S AN EFFICIENT NEW WAY TO SPEED UP ELEVATED MAINTENANCE WORK ON YOUR BUILDING AND PRODUCTION EQUIPMENT. MOTO-LIFT, Safway's one man rolling tower, is deliberately designed to reach hard-to-get-at places quickly It's just the thing for time-saving repairs, painting, machine lubrication, or ceiling work on electric lights up to 23 feet high.

UNIQUE ADVANTAGES

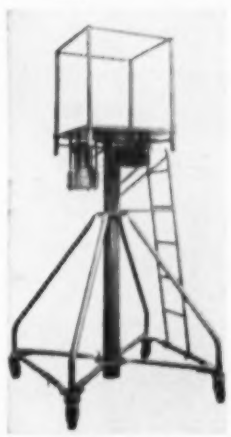
1 FAST. Raises 7 to 17 feet in 25 seconds. Lowers safely in 10 seconds.

2 Practical. Telescopes to clear, low, narrow doors. Raises as many as 50 times on one battery charge . . . easily recharged overnight.

3 Convenient. Light, strong, easy to use. You can operate it from the platform. No connection to electric outlet.

4 Strong. All-steel tubular construction. Heavy steel platform. Lifts 400 lbs.

5 Safe. Ingenious mechanical brake locks telescoping tube if power fails. Steel guard rail meets safety code.



Moto-Lift Lowered

Moto-Lift Extended

THE MOTO-LIFT is designed to outlast and outperform other maintenance towers. Saves you time. Makes maintenance dollars go further.

Write for Free Bulletin IEN-553

RENTED and SOLD by distributors everywhere

SAFWAY STEEL PRODUCTS INCORPORATED
6228 West State St.
MILWAUKEE 13, WIS.
Manufacturers of Tubular Steel Scaffolding and Equipment

If you write maker identify as **IEN - 5047**

CARTER PRODUCTS COMPANY, INC.
420 Wm. Alden Smith Bldg. 30 Ionia Ave., S. W.
Grand Rapids 2, Michigan

If you write maker identify as **IEN - 5048**

3 Complete Lines

OF

TRUMBULL SAFETY SWITCHES

The Trumbull trade mark on any switch means top quality in its class. Now the three styles described below make it easier than ever to be sure you get the best buy for your requirements in any application up to 200 amperes, 600 volts AC or DC.

Heavy Duty Industrial: Trumbull Style HCI Front Operated Safety Switches exceed NEMA Type A Standards, are deliberately designed and built to meet today's heavy industrial requirements. Unsurpassed for ease of installation, operating and maintenance advantages, and safety features.

Standard Duty: Trumbull Style HCI Side Operated Safety Switches meet NEMA Type A Standards, will serve most applications with plenty to spare.

General Use: Trumbull Style D Safety Switches meet NEMA Type D Standards, are designed for distribution and branch circuits, service entrance, and other jobs where service is not severe.

See your Trumbull Distributor or write direct for Bulletins.

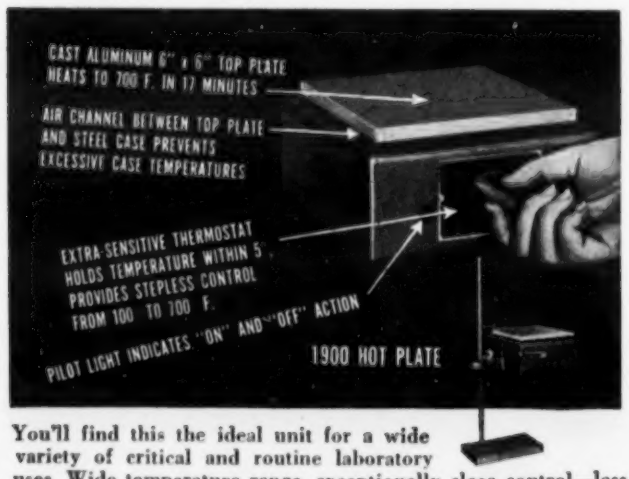
TRUMBULL ELECTRIC

DEPARTMENT OF GENERAL ELECTRIC COMPANY
PLAINVILLE, CONN.

If you write maker identify as **IEN - 5049**

VERSATILE, HANDY HOT PLATE

for both exacting requirements and general heating in laboratories and plants.



You'll find this the ideal unit for a wide variety of critical and routine laboratory uses. Wide temperature range, exceptionally close control—less than 5° F variation. Completely variable control over full temperature range. Compact, convenient — plugs into 110 V., 50/60 Cy. Only $19.75. Write for literature and nearest dealer's name.

TEMCO® HOT PLATES & FURNACES

THERMO ELECTRIC MFG. CO., 482 Huff St., DUBUQUE, IOWA

USEFUL INFORMATION

(Continued)

If you write maker identify as **IEN - 5050**

METAL POWDERS . . Catalog of 250 pages on metal powders, pigments, abrasives and their uses

Metals Disintegrating Co.
1188-92 Arthur Blvd., Elizabeth 8, N. J.

"Blue Book" titles new loose-leaf information book sent on letterhead request to qualified executives. It lists at $5 to others. Subjects include powder metallurgy, uses of powdered-metal parts, specifications for metal powders, metal pigments and their use, and metal abrasives. At the back is a set of reference data and technical bulletins.

If you write maker identify as **IEN - 5051**

MOTOR CONTROLS . . Textbook of 526 pages coordinates electric circuit theory with equipment

John Wiley & Sons
440 Fourth Ave., New York 16, N. Y.

Third Edition of "Electric Control Systems" by Prof. R. W. Jones of Northwestern University uses analysis and graphical methods to cover the subject. List price is $7.75. Characteristics of dc. motors, ac. motors, relays, electronic switching, control circuit fundamentals, are topics.

If you write maker identify as **IEN - 5052**

MOTORS . . Reference information on electric motors and generators in 56-page booklet

Allis-Chalmers Mfg. Co.
909 S. 70th St., Milwaukee 14, Wis.

Company has reprinted a 50-page section dealing with integral-hp. motors and generators from the 1952 edition of Lincoln's Industrial-Commercial Electrical Reference. It is offered as Bulletin 51-R-7933. Subjects include motor types, selection, standard ratings, application.

If you write maker identify as **IEN - 5053**

NEW PRODUCT PUBLICITY . . 250-page directory to help your company in announcing its new products

Galub Publishing Co.
516 Fifth Ave., New York 36, N. Y.

Some 2,000 magazines in the United States and Canada are covered by new 1953 edition of the Editorial Directory. These include business, industrial, professional, farm and consumer publications in 177 groups of interest, cross-referenced with 17 pages of index. The book tells type of news handled, illustrations, readership, requirements, editorial staff. List price is $27. IEN is there too.

If you write maker identify as **IEN - 5054**

PACKAGING . . Plastic slide calculator determines amount of desiccant for military packaging

Greenwood Packaging Supply Co.
861-877 Summer Ave., Newark 4, N. J.

Desiccant Calculator has a slide which is set at container size from 5 by 4½ in. to 30 gallons. Number of desiccant units then is read at a window opposite dunnage weight. The calculator lists at $2, is graduated for rigid Method-2D containers on one side and for flexible containers on the other.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 5055**

HOW TO SAVE 40% to 70% on the cost of work gloves

In handling materials that are sharp, abrasive or slippery, or where oil, grease, acid, caustic, solvents or heat are present, properly *job-fitted* gloves of coated fabric far outwear canvas, leather and unlined rubber gloves. Cost-savings of 40% to 70% are usual, in addition to safer work-handling and improved employee attitude.

No. 93 glove has NEOX (reinforced neoprene) coated palm. ***Lasted 26 shifts handling stainless coil strips vs. 2 to 3 shifts with canvas gloves.*** NEOX combines exceptional resistance to cutting, abrasion, chemicals and heat, with flexibility and good grip. Also available in many fully coated styles for liquid-proof service.

Edmont

No. 363 gauntlet coated with DUROX, a 50% longer wearing plastic. ***Retains its grip when wet.*** Ideal for contact with oil, other slippery liquids. Note hand-fitting shape, preflexed fingers, wide wing thumb.

Make this simple free test: Send a brief description of your operation, materials handled and temperature condition. From 32 types of Edmont work gloves, we will recommend the glove that correctly fits your condition and forward samples, without cost, for testing on-the-job. Address

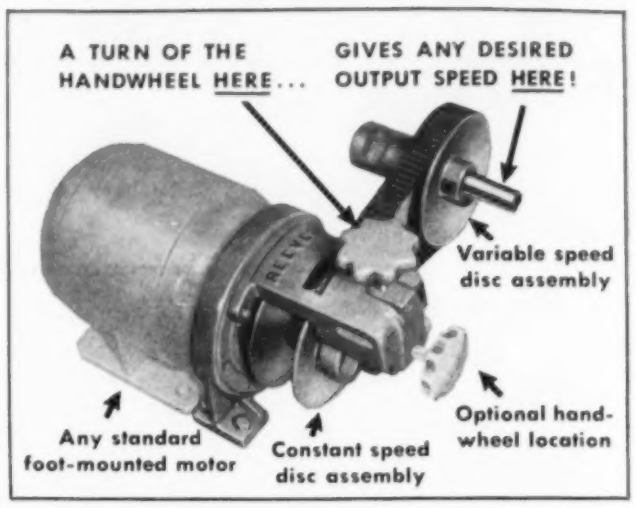
Edmont Manufacturing Co.
1226 Walnut St., Coshocton, Ohio

World's largest maker of coated industrial gloves

Edmont JOB-FITTED GLOVES

If you write maker identify as **IEN - 5056**

NEW! REEVES Flexi-Speed Drive



Mounts in any position . . . drives in any direction . . . gives any speed within 8:1 range . . . available in ½, ¾ and 1 hp. *Low Price!* Write today for details to Dept. IN91a-V532.

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

If you write maker identify as **IEN - 5057**

HOW TO CONTROL GAGES AND GAGE INSPECTION

New illustrated booklet describes and shows suggested McCaskey procedures and forms designed to provide:

- Reinspection date follow-up;
- Location and condition of each gage and measuring instrument, loaned or in cribs;
- Gage and Instrument History record;
- Central clearance record of each employee's gage and instruments;
- Tool and gage inspection report;
- Gage tag, conditional release tag for tools (fixtures), and faulty tool and gage tag;
- Instrument and gage withdrawal order, etc., etc.;
- . . . all designed for complete control with speed, accuracy and minimum clerical work.

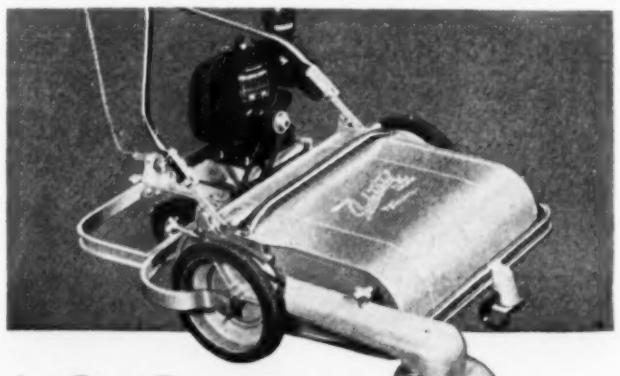
Close control of your gages, instruments and fixtures and their inspection will reduce spoiled work and rework costs . . . and improve your product quality. Procedure approved for government contract requirements.

Write today for McCaskey Gage and Tool Inspection Control — Bulletin A-512 IEN — giving you all the facts.

THE McCASKEY REGISTER COMPANY • ALLIANCE, OHIO

McCASKEY INDUSTRIAL CONTROLS
PRODUCTION • TOOLS • INVENTORY • COSTS • MAINTENANCE

If you write maker identify as **IEN - 5058**



$325.00 *F.O.B. Springfield, Ohio*

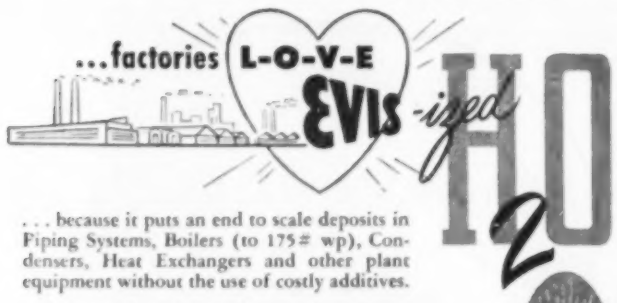
Buys a POWER Floor Sweeper

Now the benefits of Parker *power* sweeping can be yours at the lowest price in the floor sweeping industry. Famous Parker "tough use" construction. Sweeps all kinds of floors . . . easily emptied . . . easily maneuvered in small spaces . . . pays for itself in a remarkably short time. Get our latest complete-line bulletin . . . get a Parker floor sweeper and prove its great man-saving, cost-saving operation on your own floors. Write **PARKER SWEEPER CO., 45 BECHTLE AVE., SPRINGFIELD, OHIO.**

PARKER FLOOR SWEEPERS

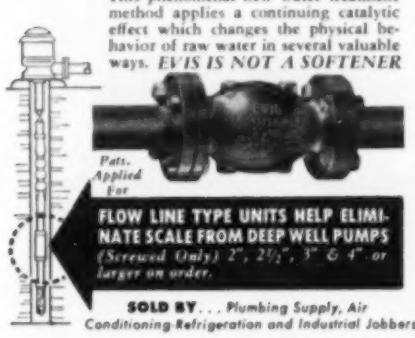
Manual and Motorized Models

If you write maker identify as IEN - 5059



. . . because it puts an end to scale deposits in Piping Systems, Boilers (to 175# wp), Condensers, Heat Exchangers and other plant equipment without the use of costly additives.

This phenomenal new water treatment method applies a continuing catalytic effect which changes the physical behavior of raw water in several valuable ways. *EVIS IS NOT A SOFTENER*



Sold on 90-DAY MONEY BACK GUARANTEE

SIZES (iron or bronze)
SCREWED • ½" thru 2"
FLANGED • 2" thru 12"

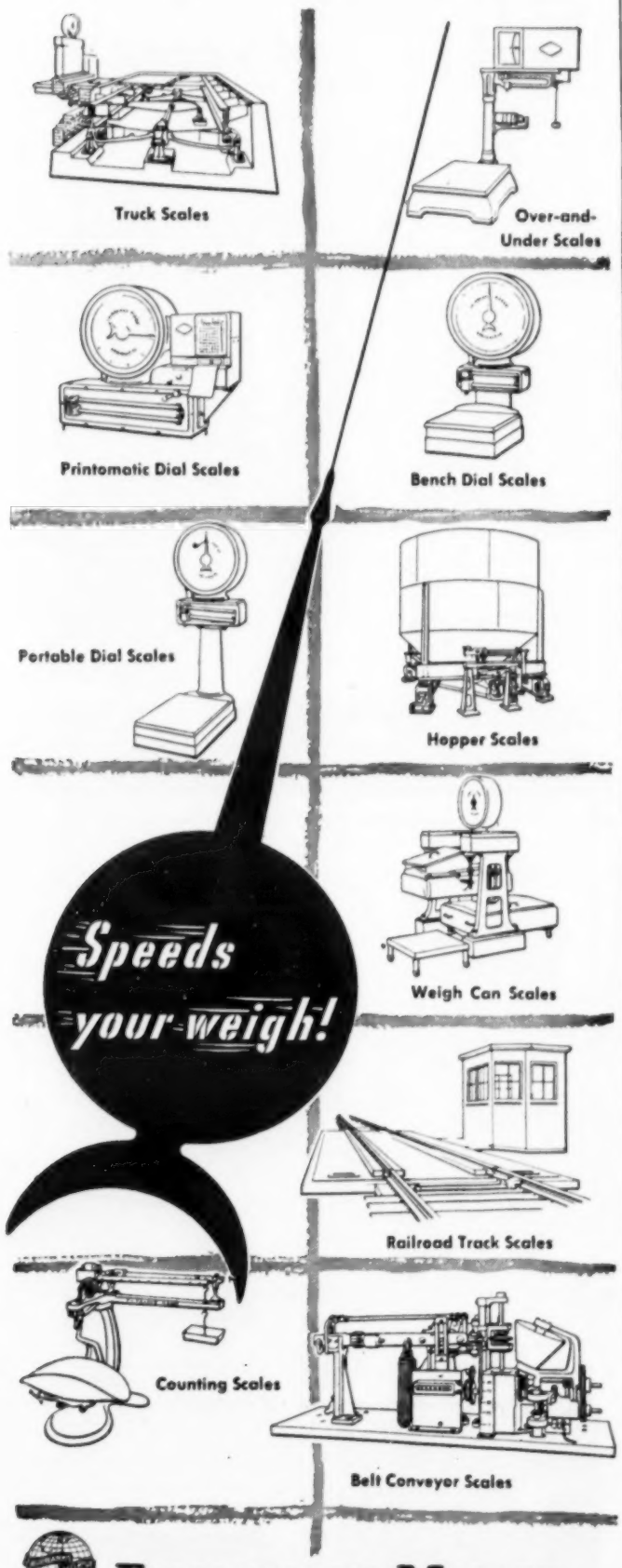
SOLD BY . . . Plumbing Supply, Air Conditioning-Refrigeration and Industrial Jobbers

REGIONAL DISTRIBUTORS

WHITTIER (Calif.) KEN-EVIS COMPANY *11146 E. Whittier, OX 9-2211*
SAN BERNARDINO (Calif.) KNUPPE & WRIGHT *226 E. 46th St., SB 8-7858*
SAN FRANCISCO NORTH-EVIS AGENCY *74 Dorman Ave., MI 7-3022*
RENO WATER CONDITIONED SALES CORP. *Western Amer. Life Bldg., 2-5639*
SEATTLE EVIS-NORTHWEST CORP. *2457 E. Marginal Way, EL-6116*
CHICAGO EVIS-GREAT LAKES COMPANY *203 N. Wabash Ave., ST 2-5948*
OMAHA EVIS-MIDWEST, INC. *1504 Dodge St., JA-7044*
DALLAS EVIS-SOUTHWEST CO. *6937 Chery Chase, EM-0137*
ATLANTA EVIS-SOUTHEAST CO. *735 Spring St., N.W., VE-0241*
PHILADELPHIA EVIS-MIDEAST CO. *4 E. Richmond St., NE 4-8703*
ALBANY (New York) EVIS-NORTHEAST CO. *57 Rapple Dr., UN 9-7921*
EXCLUSIVE MARINE DIST. MORAN-EVIS CO., SAN FRANCISCO *420 Market St., DO 2-4565*

© 1953 EVIS MFG. CO., SAN FRANCISCO 5, CALIF. EV-64

If you write maker identify as IEN - 5060



FAIRBANKS-MORSE,

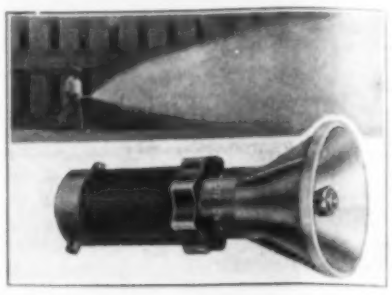
a name worth remembering

SCALES • DIESEL LOCOMOTIVES AND ENGINES • ELECTRICAL MACHINERY • PUMPS
HOME WATER SERVICE EQUIPMENT • RAIL CARS • FARM MACHINERY • MAGNETOS

If you write maker identify as IEN - 5062

EXTINGUISHING . . Spiral nozzle delivers water fog or solid stream

Source: BETE FOG NOZZLES INC.
83-87 Pierce St., Greenfield, Mass.



Shears water into fog

Model G-10 and G-15 are new nozzle assemblies for application on 1½-in. hose lines. Model G-10 rates 25 gpm. in fog capacity or 50 gpm. in a straight stream at 100 lb. pressure. Model G-15 rates 50 and 100 gpm. under the same conditions. Both nozzles are non-clogging and self-cleaning so they do not require strainers. Adjustment is made between "off," "on" and "straight stream" by turning the nozzle handle. Materials are stainless steel and chromium plated brass. The metal-to-metal shut-off is positive but gradual to prevent water hammer.

If you write maker identify as IEN - 5063

SOLDERING . . Fluxes and solder, particularly for transistor assembly

Source: DIVISION LEAD CO.
834-38 W. Kinzie St., Chicago 22, Ill.

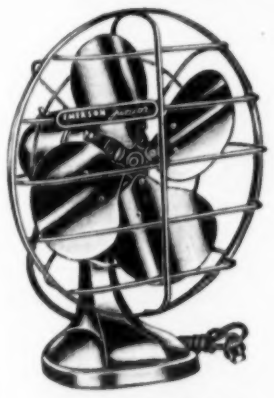
One of several new materials

Diveo 335 is a new soldering flux for copper plated, unplated etched, or unplated unetched germanium in the manufacture of germanium diodes. It contains no ammonium compounds that might cause stress cracking of delicate copper, brass or phosphor bronze parts. It has excellent sweating and penetrating qualities. Flux residue removal is by a 2 per cent hydrochloric acid wash.

If you write maker identify as IEN - 5064

VENTILATING . . Oscillating fans, 10 and 12 in. sizes, year guarantee

Source: EMERSON ELECTRIC MFG. CO.
8102 Florissant Ave., St. Louis 21, Mo.



About $18 and $28

Two new fans have been added to the company's Junior oscillating line. One is a 10-in. unit in metalescent bronze or surf green finish. The other is a 12-in. assembly in the same two finishes. The smaller fan is single speed. The larger one operates at two speeds. Both are equipped with cool running induction motors, large quiet pitch blades and are equipped with a hinged desk bracket base. It is suited also for wall mounting.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5065

"Centre-Kooled"

PATENTS NO. 2618692 & 2675364

SELENIUM RECTIFIERS

Embedments A recent "first" in the industry, Sarkes Tarzian embedments offer the advantages of hermetically sealed rectifiers at a fraction of the size, weight and cost. *Please write, wire or phone for complete information on all types of Sarkes Tarzian Selenium Rectifiers.*

SARKES TARZIAN, Inc., Rectifier Division
Dept. B-3, 415 N. College Ave., Bloomington, Ind.

If you write maker identify as IEN - 5066

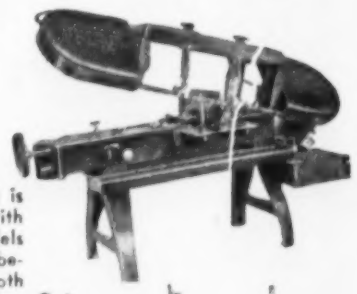
H. S. COVER, South Bend, Ind.

If you write maker identify as IEN - 5067

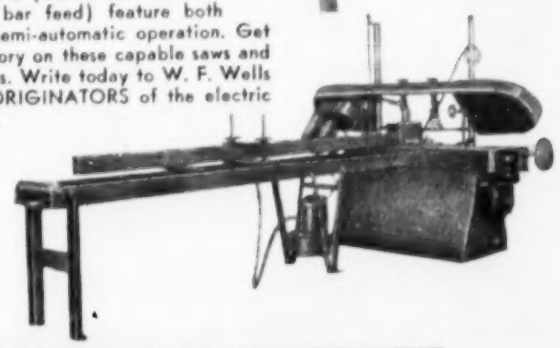
THE FEDERAL PRESS COMPANY, 503 DIVISION ST., ELKHART, INDIANA

If you write maker identify as IEN - 5068

Here's cutting capacity that spells out P-R-O-F-I-T



First choice in plant after plant . . . and for several good reasons! W. F. Wells & Sons units give you longer blade life, sturdier construction for trouble-free service, many unique features of operation. Capacities range from 9" x 16" to 24" by 24". Model H (shown at right) is a hinge-type, economy model with hydraulically lowered frame. Models M, D, and J (Model M shown below with bar feed) feature both full and semi-automatic operation. Get the full story on these capable saws and accessories. Write today to W. F. Wells & Sons, ORIGINATORS of the electric band saw.



W. F. WELLS & SONS
Three Rivers, Michigan

If you write maker identify as IEN - 5069

GREAT NEWS FOR SMALL SCREW USERS!

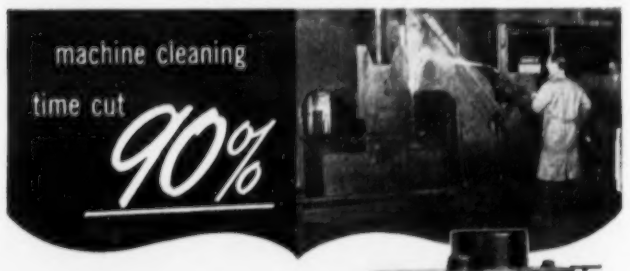
POWERFUL . . . COMPACT . . . BUILT TO LAST . . . LOW IN COST

Dremel Moto-Screwdrivers are small, yet rugged . . . precision-built for long, trouble-free service. Because they are so compact, they ar ideal for small parts assembly work, especially suitable for female operators. Many users report savings which pay for the tools the very first day in use! Ask your Dealer for details, or write for free data sheet without obligation.

LIGHT WEIGHT, COMPACTNESS, FAST OPERATION make Moto-Screwdrivers the ideal tool for small screw users. They occupy little bench space, are held at comfortable right-angle to work, and drive free-running screws and nuts more than 5 times faster than by hand. Take advantage of these savings now!

DREMEL MANUFACTURING CO., 2442 Eighteenth St., Racine, Wisconsin

If you write maker identify as IEN - 5070



Production increased . . . accidents decreased with

HYPRESSURE Jenny steam cleaner

Here are actual savings reported by four prominent manufacturers* who switched from hand cleaning to *Hypressure Jenny Steam Cleaning.*

MACHINE	Hand Cleaning	Hypressure Jenny Steam Cleaning	Man-Hours Saved
40 Ton Toggle Press	64 hrs.	3 hrs.	61 hrs.
72" Calender Machine	48 hrs.	5 hrs.	43 hrs.
Auto. Screw Machine	49 hrs.	5 hrs.	44 hrs.

*Names on request.

And keep in mind that they represent economies in actual cleaning time only. Additional savings of up to 40% in repair costs, less "down-time" for production machinery, and fewer lost-time accidents, invariably result when machinery, tools, equipment and floors are kept clean and free of dangerous, speed-retarding dirt and grease.

Complete details are yours for the asking. Write today.

HYPRESSURE JENNY DIVISION

HOMESTEAD VALVE MANUFACTURING CO.

P. O. BOX 85 Serving since 1892 CORAOPOLIS, PA.

If you write maker identify as IEN - 5071

Here's Efficient, Dependable Air Supply

JOY WL-80 "UNITAIR" COMPRESSOR

★ 81 to 640 CFM
★ Two Stage . . . Air cooled
★ A size for *every* standard motor rating
★ Force-feed lubrication
★ Small floor-space requirements

And here's FREE HELP!

Bulletin A-56 . . . new, with 16 fact-filled pages and a Selector Chart. Write for it to select the right compressor for your needs.

Consult a Joy Engineer

W & D 13086

JOY MANUFACTURING CO.

General Offices: Henry W. Oliver Building Pittsburgh 22, Pa.

IN CANADA: JOY MANUFACTURING CO. (CANADA) LIMITED GALT, ONTARIO

USEFUL INFORMATION

(Concluded)

If you write maker identify as IEN - 5072

PLASTICS . . Bulletin gives instructions on formulation and production of reinforced plastic parts

Bakelite Co.
30 E. 42nd St., Room 1503, New York 17, N. Y.

Polyester resins and their combination with glass-fiber reinforcing are covered by new 20-page Bulletin L-10. Information starts with properties on nine resins, fillers and catalysts, thinners and solvents, compounding, working life, reinforcing materials. Diagrams illustrate production methods of molding such as diaphragm, rubber plug, matched metal mold. Suggestions are given on fabricating methods.

A feature of the bulletin is the listing of suppliers for the products and equipment named other than the company's own materials. This is done for trade-named products such as fillers, catalysts and solvents; for the reinforcing materials; and for preforming equipment, presses and dies.

If you write maker identify as IEN - 5073

RESEARCH . . New house publication reports work in electronics, crystals, semiconductors

Solid State Research Institute Inc.
155 E. 44th St., New York 17, N. Y.

"Solid State News" in its 8-page first issue contains a number of reports on research activities in such fields as photometrics, quartz crystals, infra-red cells, chemical research. The Institute cooperates with French industrial and scientific groups on long-range research and development. Your name will be added to the mailing list upon request.

If you write maker identify as IEN - 5074

ROOFS . . Bulletin of instructions on how to apply a cold process built-up roof surface

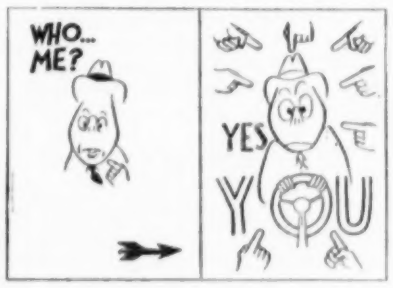
Tropical Paint & Oil Co.
1244-48 W. 70th St., Cleveland 2, Ohio

New method developed by the company and tested for 10 years is described in new 4-page bulletin, "Cold Process Built Up Roofs". Instructions are given step by step on how to apply a one-ply and a two-ply surface.

If you write maker identify as IEN - 5075

SAFETY . . On the highway, booklet analyzes traffic accidents with reasons why

Travelers Insurance Companies
702 Main St., Hartford 3, Conn.



"Who, Me?" titles new 32-page booklet available free in the interest of street and highway safety. It analyzes traffic accidents for 1952, compares them with those for 1951, tells where they happened, when, why and how. With last year's total of 2,090,000 casualties, the worst in history, the booklet concludes that only you can prevent such accidents.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5076

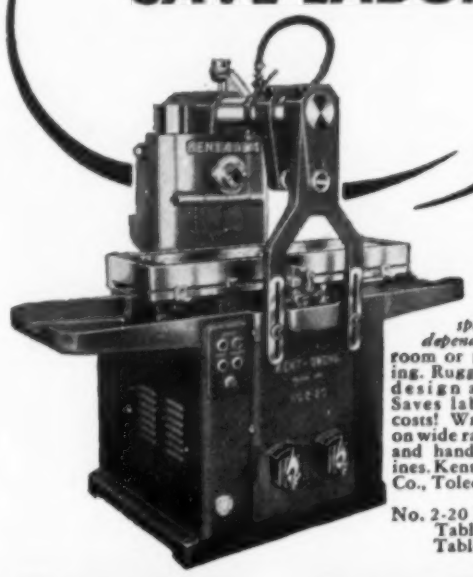
A PAID NEWS ADVERTISEMENT BY MATHEWSON MACHINE WORKS

NEW ADJUSTABLE DRILL JIG eliminates layout; cuts drilling time

Used for drilling holes through round stock and hex stock from ¼ to 2" and cap screws from ¼" to 1¼", the new Mathewson Adjustable Drill Jig eliminates layout and can cut drilling time on small lots to a fraction. And it eliminates the costs of special jigs for larger quantities. Holes for cotter pins, set screws, drive pins for bayonet joints, oil holes in tubular sections, and wiring holes in cap screws, are all typical of the operation that can be done more economically with this jig. Hole diameters range from .052" to .531", using your A.S.A. standard slip bushings. The hardened V-block has two 60-degree V's for centering round or hexagonal stock, one for ¼" to 21/32" diameter, one for 21/32" to 2" diameter. Adjustable stop for locating work longitudinally for drilling any distance from end, may be used on either side. Adjustable bushing carries hold slip bushings and clamp work securely. Jig highly successful in permitting use of inexperienced drill operators. For circular write to: **Mathewson Machine Works**, 26 Hancock Street, Quincy, Mass.

If you write maker identify as IEN - 5077

MILL IT *faster..* SAVE LABOR!



Kent-Owens advanced features mean *speed, accuracy* and *dependability*... in tool room or production milling. Rugged . . . simple in design and operation. Saves labor . . . reduces costs! Write for bulletins on wide range of hydraulic and hand-operated machines. Kent-Owens Machine Co., Toledo, Ohio.

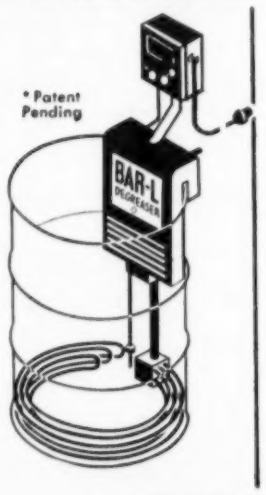
No. 2-20 Milling Machine
Table, 42" x 12"
Table travel, 20"

KENT-OWENS *Milling Machines*

If you write maker identify as IEN - 5078

BAR-L* VAPOR DEGREASER

Economical Trouble-Free Parts Cleaning!



* Patent Pending

Bar-L Vapor Degreaser cleans all metal parts, removes sludge, grease, dirt in seconds! And your parts come out warm and dry.

So designed that the heating element is in no danger of damage from dropped parts or insulated by settled residues, Bar-L Degreaser cleans anything that will fit into the solvent drum!

Economy of operation is assured by a record of trouble-free service. Almost 100% recovery of the solvent is made possible by the design of the condenser which returns the solvent to the boiling chamber. Continuous, high production is a fact with Bar-L!

If your requirements indicate tanks larger than the standard 55 gallon drum, several units may be used together in larger tanks.

Literature on standard degreasers and information on custom machinery is yours for the asking.

Write or wire today!

Manufacturers Processing Co.

METAL CLEANING CHEMICALS AND EQUIPMENT
1360 HILTON ROAD DETROIT 20, MICHIGAN

If you write maker identify as IEN - 5079

New! PORTER-CABLE'S Professional 8¼" SAW

"CONTRACTORS' SPECIAL"... MODEL 108

Has more advanced features than any other saw! ONLY $95.

Big capacity, 10% more power, a full 2⅞" cut at 90°! Zips through rip cuts, cross cuts, compound miters — cuts off 1" x 10" pine in 1 second! Light (13½ lbs.); full-grip handle — easy to use anywhere. Safest saw on the market, for four exclusive reasons: (1) Cam-action telescoping guard, (2) Auxiliary front guard, (3) Extended wide-rest base, (4) Kickproof clutch!

Full protection for speedy ALL-DAY Sawing—on any job!

See this Saw demonstrated at your dealers. Or write us for full details today.

Porter-Cable *Quality Electric Tools*

PORTER-CABLE Machine Co., 1205 N. Salina St., Syracuse 8, N.Y.
In Canada write: Strongridge, Ltd., London, Ont.
Manufacturers of SPEEDMATIC and GUILD Electric Tools

If you write maker identify as IEN - 5080

FAST MOVING LINE TO MORE PROFITS

VIA "STREAMLINER" CONVEYORS

Yes . . . on the move to faster handling of goods, at a reduction in handling costs! If you've never visualized a "Streamliner" engineered conveyor in your plant, just take a moment to determine where you could use one. Shipping? Receiving? Production? Storage? No matter where, "Streamliner" Conveyors will save you time, money and man-effort. Get complete facts today by requesting Bulletin 302.

Ferguson designs and manufactures a variety of conveyors and conveyor systems to meet individual requirements.

HARRY J. FERGUSON COMPANY

125 WEST AVENUE, JENKINTOWN, PENNA.

If you write maker identify as IEN - 5081

Power Outlets every inch of the way!

ELECTRIC FEEDRAIL®

—for maximum safety, convenience, adaptability

● The smooth-rolling trolley outlets can tap power at any point along the entire length of a run. Electrical outlets are always available where or when you need them when ELECTRIC FEEDRAIL is on the job. Additional trolleys can be added in a matter of minutes without shutting off power. If you're planning a plant addition, a revised production set-up, or a new plant—remember that FEEDRAIL is the electric power distribution system you can't afford to overlook. A FEEDRAIL engineer or field representative will be glad to provide you with details. Call him in today.

Write for descriptive literature which gives you complete details about ELECTRIC FEEDRAIL, including capacities, applications, installation, planning and the preparation of specifications.

Sold by leading electrical distributors

52-2A Rev.

ELECTRIC FEEDRAIL® *Never Becomes Obsolete* **FEEDRAIL CORPORATION**

Subsidiary of Russell & Stoll Company, Inc.

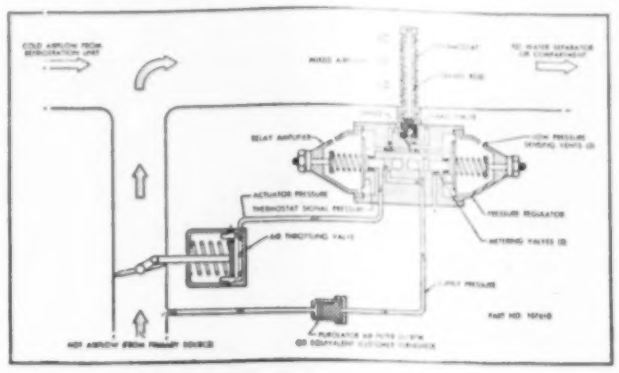
125 BARCLAY STREET · NEW YORK 7, N. Y.

SPECIALLY QUALIFIED REPRESENTATIVES IN PRINCIPAL CITIES

If you write maker identify as IEN - 5083

THERMOSTAT . . For aircraft use, controls flow of hot air for heating

Source: AIRESEARCH MFG. CO.
9849-53 Sepulveda Blvd., Los Angeles 45, Calif.



Schematic diagram shows action

Part 107614 is new design of a previously developed thermostat for aircraft use. As in the previous unit, it consists of a pressure regulator, a relay amplifier and a low temperature pneumatic thermostat. The regulator controls inlet pressure to the orifice. The amplifier builds up and relays the thermostat signal pressure to the air throttling valve. Both regulator and amplifier consist of spring loaded metering valves mounted at the two ends of a housing set against diaphragm assemblies. The thermostat is a finned element with a ceramic rod core. It actuates a spring loaded ball valve near its inner end.

Supply pressure from a primary source, normally a compressor or engine bleed, enters both the pressure regulator and relay amplifier after passing through a filter. The regulator governs supply pressure to the orifice. The amplifier meters the supply pressure to the air throttling valve. When the air temperature surrounding the thermostat is higher than that for which the thermostat is calibrated, the element expands, the ball valve opens, signal pressure is reduced, and the relay amplifier metering valve closes supply pressure to the throttling valve which remains closed.

When air temperature surrounding the thermostat is lower than that for which it is set, the finned element contracts forcing the ceramic rod to close the ball valve so signal pressure increases, the relay amplifier metering valve opens and supply pressure is ducted directly to the air throttling valve. This causes the throttling valve to open a butterfly in the hot air supply duct to release the air into the control area to be heated, such as a compartment.

If you write maker identify as IEN - 5084

SOLDERING . . Rod material for aluminum or zinc base metals

Source: FACTORY PRODUCTS CORP.
644-48 N. Michigan Ave., Chicago 11, Ill.

In rod form or ingots

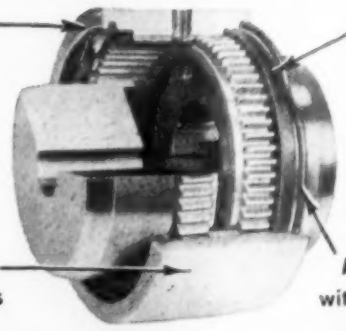
Chemalloy is a new soldering rod to be heated to the melting point, about 800 deg. F., and flowed on a joint or defect in an aluminum or zinc base product. It applies without need for flux. It penetrates through oxide film on aluminum by rubbing contact in connection with the melting operation. The material flows as a silvery liquid. List price of the new rod is $3 per pound.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5085

A PAID NEWS ADVERTISEMENT BY SIER-BATH GEAR & PUMP CO.

GEAR COUPLING . . . simplified design cuts costs



Sier-Bath Flexible Gear Couplings have only 7 parts, average ⅜ the size and ½ the weight of conventional types, are assembled and uncoupled in seconds. Resulting advantages: allow more compact designs, cut assembly costs, reduce downtime, cut wear on shafts, bearings, armatures. Standard, Mill Motor, Vertical, Floating Shaft and Spacer Types, sizes ⅞ to 6, HP 4 to 600 per 100 RPM. Special types and sizes to order. New 16-page Catalog on request.

SIER-BATH GEAR & PUMP CO., INC.

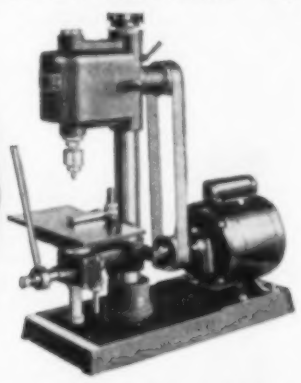
9246 Hudson Blvd., North Bergen, N. J.

Founded 1905 *Member A. G. M. A.*

Also Mfrs. of Precision Gears and Rotary Pumps

If you write maker identify as IEN - 5086

THIS TAPPING MACHINE IS *UNIQUE* IN THE FIELD OF SMALL HOLE PRECISION TAPPING



TAPPING CAPACITY
From the smallest and finest tap up to 10-32 inclusive.

SPINDLE SPEEDS
1200 to 2600 R.P.M.

CLEARANCE
Taps to the center of 6½"

HAMILTON®
TAPPING MACHINE
SUPER SENSITIVE
SUPER ACCURATE

● **Spindle idles in reverse. Changes direction of rotation automatically as pressure is applied to tap. Withdraws tap instantly and automatically when pressure is released.**

REDUCE TAP BREAKAGE REDUCE SCRAP WRITE FOR FREE BULLETIN T-5313.

THE *Hamilton* TOOL COMPANY

905 HANOVER STREET • HAMILTON • OHIO • U • S • A

If you write maker identify as IEN - 5087

ONE Electric Operator

for MOST TYPES of Doors

"BARCOL" EQUIPMENT REDUCES MAINTENANCE COSTS...

This Barcol Electric Door Operator will handle *any* type of overhead, sliding, or steel-rolling door, or sliding gate. Thus ONE make of operator can handle *all the powered doors* in your plant. Your maintenance department, then, stocks only a minimum of stand-by parts. Sole responsibility for helping with your problems rests with ONE factory representative. In this way, costs are reduced and convenience and service are greatly increased. See your "Barcol" representative for detailed suggestions. ASK FOR LITERATURE.

Factory-Trained Sales and Service Representatives in Principal Cities

BARBER-COLMAN COMPANY

114 MILL STREET, ROCKFORD, ILLINOIS

If you write maker identify as IEN - 5088

DUNHAM FIN-VECTOR RADIATION

Heats "just right" at *any* height

Any height above four inches from the floor is "just right" with Dunham Fin-Vector along outside walls.

Materials used provide rapid heat transfer. Choices of pipe and fin sizes and fin spacing assure adequate heat.

Easy to Install

Fin-Vector is light in weight, needs few supports, requires little on-the-job cutting, speeds assembly.

Three cover designs available with complete line of accessories to form tight, sturdy, "finished" looking installation.

For further information, write to Dept. 11 for File 1256-61.

C. A. DUNHAM CO.

400 W. Madison St. • Chicago 6, Illinois

Sloping Top Cover

Flat Top Cover

Expanded Metal Cover

DUNHAM

Quality first for fifty years

If you write maker identify as **IEN - 5089**

ECONOMY-WISE?

BUY MOLDED PLASTICS BY

GRIGOLEIT

The best for less has been a habit with Grigoleit for over a quarter century. Economy, service and sales appeal combine to give your product a "new look" in molded plastics. A complete line is available for your selection. Prompt delivery assured, providing you order now.

GRIGOLEIT is now in a position to accept orders for the manufacture of small finished plated stampings for appliance trim.

THE GRIGOLEIT COMPANY
"Serving Industry for Twenty Five Years"
742 E. NORTH ST. DECATUR, ILLINOIS

If you write maker identify as **IEN - 5090**

AMERICA'S *FINEST* INDUSTRIAL PACKAGING LABORATORY...

...can also provide a more efficient shipping container for YOUR product

SEND FOR FREE BOOKLET

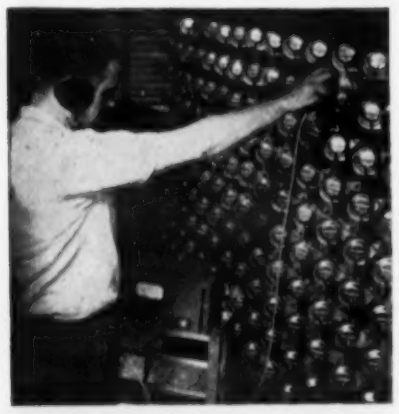
General BOX COMPANY

★★★★★

GENERAL OFFICES: 1815 MINER STREET
DES PLAINES, ILLINOIS

DISTRICT OFFICES AND FACTORIES: Cincinnati, Danville, N. J., Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, Sheboygan, Winchendon. General Box Company of Mississippi, Meridian, Miss. Continental Box Company, Inc., Houston, Dallas

If you write maker identify as **IEN - 5091**



No guess-work in the manufacture of SYNCHRON timing motors which must pass 51 separate inspections and a grueling final test (above) before leaving factory. Advanced engineering tested materials, precise manufacture, assure lasting accuracy and dependability.

TESTED 51 TIMES

Pulls up to 8 oz. direct load at 1 R.P.M. Operates efficiently at −40° to +140°F. Available with gear trains to convert any speed.

SYNCHRON® timing motors

HANSEN MANUFACTURING CO., INC., PRINCETON 2, INDIANA
Send catalog and engineering data to:

Name .....
Firm .....
Address .....
City ..... Zone ..... State .....

If you write maker identify as **IEN - 5092**

SEPARATING . . Centrifugal purifier cleans exhaust gases in a stack

Source: V. D. ANDERSON CO.
1931 W. 96th St., Cleveland 2, Ohio

Clean discharge

Entrained oil particles, process liquors, dirt particles, water are separated from a vertically moving exhaust stream by this new separator. It mounts on the top of an exhaust stack to impart rapid controlled rotating movement to the exhaust. The action guides the foreign matter outward to the walls where it drains down for controlled removal. There are no moving parts. Maintenance requirements are negligible.

Sizes range in capacity from 550 to 20,000 cfm. for stacks measuring 4 to 24 in. in diameter. A unit for a 4-in. stack measures 12 in. in diameter by 18 in. in height. The 24-in. size is 50 in. in diameter by 96 in. in height, the largest in the line.

If you write maker identify as **IEN - 5093**

OSCILLOGRAPH . . Strip chart recorder frequency range dc. to 100 cycle ac.

Source: BRUSH ELECTRONICS CO.
3403-7 Perkins Ave., Dept. 32-H, Cleveland 14, Ohio

For portable use

Model BL-226 is a new six-channel oscillograph. It is equipped with the company's Model BL-902A Penmotors for simultaneous recording of instantaneous electric phenomena, or mechanical phenomena that can be converted to electrical impulses. The record is made on a motor driven strip chart with controls for chart speeds of 5, 25 and 25 mm. per second of travel.

Action of the pens can be observed through a window in the housing face. A 25-ft. cable and junction box provide the necessary outlets for six Brush amplifiers.

If you write maker identify as **IEN - 5094**

SHIPPING CONTAINERS . . Instruction manual on how to pack products for export in boxes and crates

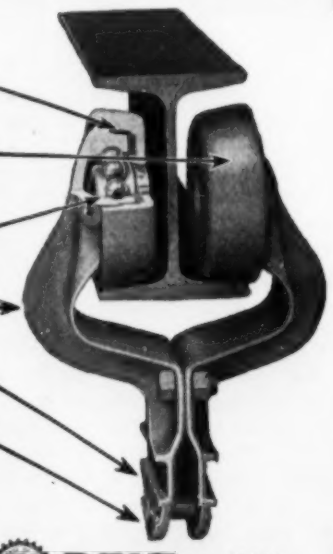
National Wooden Box Association
353 Barr Bldg., Washington 6, D. C.

"Export Packing" is new 20-page manual on how to select, use and mark wooden boxes and crates to ship products overseas. It tells how to analyze characteristics of the product, how to select the proper container style, nailing procedures, strapping, interior packing, corrosion proofing. It gives a table of cautionary words and phrases in ten languages.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 5095**

Important points to look for when you buy trolleys You get them all when you buy Link-Belt



Effective sealing of wheel and bracket keeps out dust and dirt.

Wheels are drop-forged, internally machined to extremely close tolerances.

Raceways are induction hardened. High load capacity is based on entire assembly — not just on bearing.

Rugged, one-piece bracket and clevis are drop-forged and heat-treated—fewer parts to maintain.

Trolley can replace other makes without disturbing chain's operating position.

Clevis pins are locked in bracket, cannot rotate. Bracket wear is minimized.

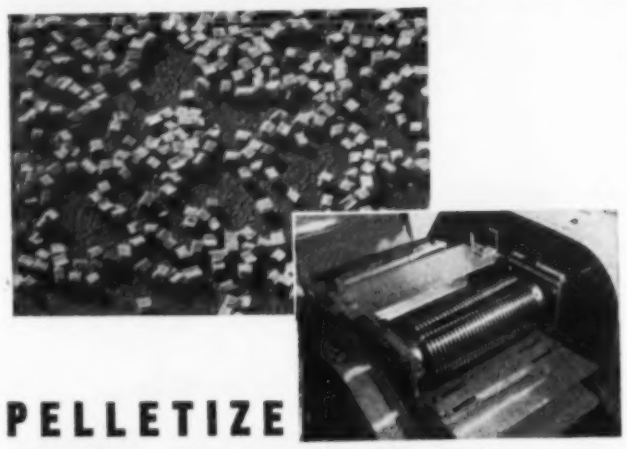
Write for Folder 2241-B.

LINK-BELT

LINK-BELT COMPANY
Dept. 21, 307 N. Michigan Ave.
CHICAGO 1, ILL.

12,384

If you write maker identify as **IEN - 5096**



PELLETIZE RUBBER OR PLASTICS with TAYLOR-STILES DICING CUTTER

In a single straight-line operation this dicing cutter slits and cross-cuts steets of stock into uniform pieces for further processing.

Write for full facts, or let us have sample of your stock for test cutting at our plant.

— without fines
— without dust
— without longs

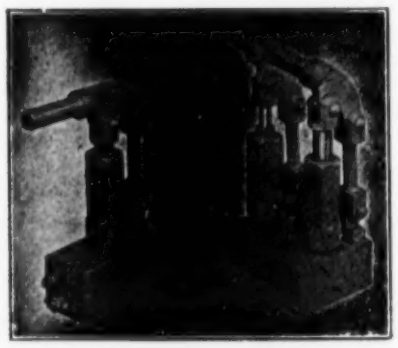
TAYLOR-STILES and Company
CUTTING MACHINES & KNIVES

44 Bridge Street
Riegelsville, New Jersey

If you write maker identify as **IEN - 5097**

HAND HYDRAULIC PUMP

Single and Double Designs
To 20,000 P. S. I.



Interchangeable Pistons
⅜ - ½ - ¼ inch

★

Integral Release Valve

★

Dual Pump Unit Reservoir 360 Cu. in.

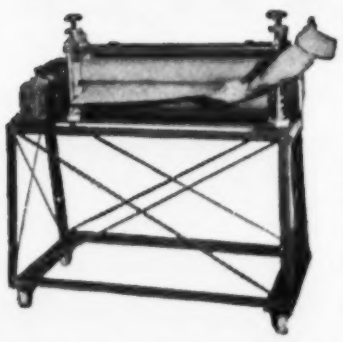
Pressure range is 3,000 to 20,000 P.S.I. Pipe connections ¼" N.P.T. Handle length is 18 inches. Weight is 8 to 18 pounds. Unit can be bolted or welded into position. We specialize in hand pump units to operate in temperatures from minus 65 F. to 160 F. and with any capacity reservoirs required.

WILLIAM S. PINE
1637 E. 22nd St., Los Angeles 11, Calif.

If you write maker identify as **IEN - 5098**

Built for dependable service

POTDEVIN COMBINING MACHINE



A new, high-speed machine that combines all type glued materials to ½ inch thick and 30 inches wide.

Designed for use either for hand feeding or set up in a production line. A safety switch is provided for separating the rubber covered rollers. Machine is mounted on a rigidly constructed steel frame, easily ported about on ball-bearing casters.

Other machines available from 24 to 48 inches wide or wider on special order. Machines for combining materials up to 1¼" are also available.

Write for literature on complete POTDEVIN line

POTDEVIN MACHINE CO.
213 North Street • Teterboro, N. J.

ESTABLISHED IN 1893 POTDEVIN

Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling

If you write maker identify as IEN - 5099

Two new Bassick Casters save you money right down the line!

Series "H68" 5" and 6" sizes for loads up to 1400 lbs

- ✓ **LOWER INITIAL COST** . . . You get *double* ball-bearing swivel action, at a lower price than most 5" and 6" casters with *single* ball race.
- ✓ **EASIER SWIVELING** . . . The Bassick "Diamond-Arrow" double ball-bearing swivel action rotates faster and easier, is more efficient.
- ✓ **LONGER LIFE** . . . Fully case-hardened bearing raceways mean extra durability, longer service life.

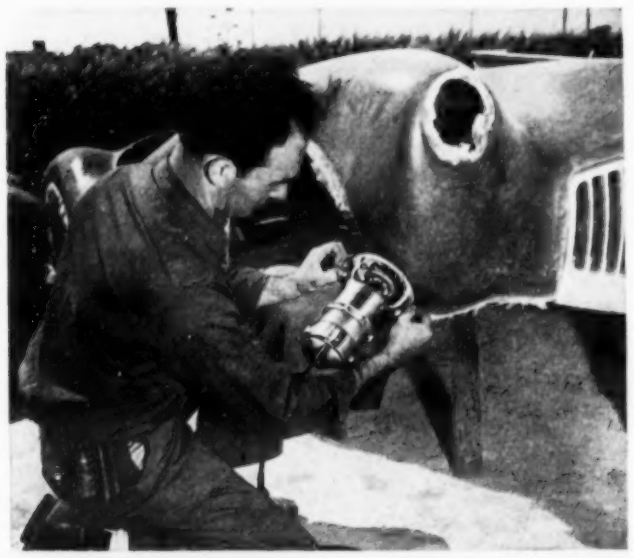
Made with roller bearing wheels in soft rubber or tough Atlasite solid composition tread, with thread guards. Write for detailed specifications. THE BASSICK COMPANY, Bridgeport 2, Conn. *In Canada:* Belleville, Ont.

Bassick A DIVISION OF STEWART WARNER

MAKING MORE KINDS OF CASTERS . . . MAKING CASTERS DO MORE

If you write maker identify as IEN - 5100

"RATES FIRST for building the car of the future"



STANLEY ROUTER

"No method can compare with the Stanley R5B Router for speed or accuracy in cutting and trimming our all-plastic car bodies."

That's the report of the Glasspar Company, Santa Ana, Calif.—pioneer in using Fiberglas-reinforced plastic to manufacture light, low-cost bodies that promise major economies in the automobile of the future.

For tomorrow's needs or those of today, you'll find the Stanley R5B Router ready to turn out precision work quickly and economically. This popular portable router has a powerful 1 h.p. motor and the speed to make all kinds of smooth, finished cuts. Use it on wood, plastics, or soft metals. Adapt it to special fixtures, use it with gauges and templets to do an unequalled range of work. Weighs only 10¾ lbs.

Ask your Dealer to demonstrate this time and labor saving router — one in the complete line of tough, dependable Stanley Electric Tools. Or write for Catalog No. 96 to: Stanley Electric Tools, 414 Myrtle St., New Britain, Conn.

On the job from East to West . . .
Made by men who make tools **BEST**

STANLEY Reg. U.S. Pat. Off.
HARDWARE
TOOLS
ELECTRIC TOOLS
STEEL STRAPPING
STEEL

STANLEY *Electric Tools*

If you write maker identify as IEN - 5102

VENTILATING . . Exhaust unit discharges bad air, fumes through roof

Source: CHELSEA FAN & BLOWER CO.
637-41 South Ave., Plainfield, N. J.

Quiet operation

Type PH, with a belt connected fan, and Type PHD, with direct connection to the driving motor, are recently improved units in the company's Penthouse roof ventilator. Sizes, based on fan diameter, range from 12 to 60 inches. Rating is 5,000 to 40,000 cfm. Both assemblies are undercoated with noise deadening material. An over-hanging front section includes a by-pass tray to discharge, back to the roof, any water that may pass the shutters in a severe rainstorm. Motor is totally enclosed. Insulation can be specified on the interior walls to prevent condensation.

If you write maker identify as IEN - 5103

SEALING . . Plastic packing contains molybdenum disulfide powder

Source: SURVEYS INC.
217-21 Euclid Ave., Trenton 9, N. J.

In 5 lb. cartons at $2.75 a pound

Molyseal is a new plastic sealing material to prevent leakage of compressed air, steam, water, around valve stems, pump pistons, expansion joints. It is designed to replace old packing and is compressed into a clean stuffing box by gland take-up. The pressure induces cold flow in the plastic material so it assumes the shape of the stuffing box and fills it completely. The molybdenum disulfide powder provides the non-oxidizing lubricating action required to minimize friction while the plastic body of the material seals against leakage from the stuffing box.

If you write maker identify as IEN - 5104

SEPARATING . . Compressed air unit with regulator to supply paint guns

Source: DE VILBISS CO.
305 Phillips Ave., Toledo 1, Ohio

Dry clean air

Entrained oil and moisture are removed from compressed air and delivery pressure is controlled by a regulator in this new spray paint air supply equipment. It is known as the Type-HLD Air Transformer. It rates 100 cfm. at 100 pounds. It provides two regulated and two unregulated outlets.

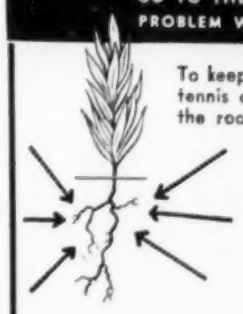
The regulator is two-stage design with a knob to adjust a small pilot unit which in turn controls the larger main flow diaphragm. Oil and moisture are drained at intervals by a push-pull knob at the bottom.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5105

GET THOSE WEED ROOTS!

GO TO THE ROOT OF YOUR WEED PROBLEM WITH THESE DOLGE PRODUCTS



To keep weeds off drives, walks, parking lots, tennis courts, sand traps you've got to finish the roots.

DOLGE SS WEED-KILLER does that—and more. It kills the foilage, of course. It works down deep. It tends to sterilize the soil so that wind-blown seeds cannot sprout in it. Diluted as directed, it can kill the toughest weeds. Spray or sprinkle where you want no growth whatsoever.

E.W.T. is the Dolge 2,4-D **Selective** Weed-Killer. It finishes dandelions, plantain and other broad-leaved weeds in turf—does not harm good lawn grasses. It translocates; is absorbed and travels through the sap to the roots.

See your Dolge Service Man—he will call soon.

Write for the Dolge booklet on chemical weed control.

FOR **FREE SANITARY SURVEY** OF YOUR PREMISES SEE YOUR DOLGE SERVICE MAN

e-pendable **DOLGE** WESTPORT, CONNECTICUT

If you write maker identify as IEN - 5106

SOUTH BEND 7" SHAPER

Cuts Costs OF MACHINING SMALL PARTS

It's fast—accurate—easy to operate. The South Bend 7" Precision Shaper can consistently give you low machining costs on small parts. Designed to handle a wide variety of work in this class, it will enable you to release larger shapers for heavier work, save on machine investment and economize on both power and upkeep. Find out how this versatile shaper can give you better service on production, toolroom or maintenance machining.

Also write for catalogs on South Bend Lathes (9" to 16-24" swings) 14" Drill Presses and Lathe Attachments.

SOUTH BEND LATHE
SOUTH BEND 22, INDIANA
Building Better Tools Since 1906

If you write maker identify as IEN - 5107

Model "SP" ROTARY
Alaska Gray and Seal Brown

The DURANT "SP" Predetermined Counter

(CLOSES SWITCH AT END OF PRE-SET COUNT)

PREVENTS COSTLY OVERRUNS

This SMALL, COMPACT Productimeter has hundreds of applications in all phases of industrial production. Make exact production runs to any predetermined count you set.

Extremely rugged, fast and accurate the "SP" Productimeter will eliminate wasteful over- or under-runs. It will turn on a light, ring a bell or stop the machine. Available in ROTARY or STROKE models.

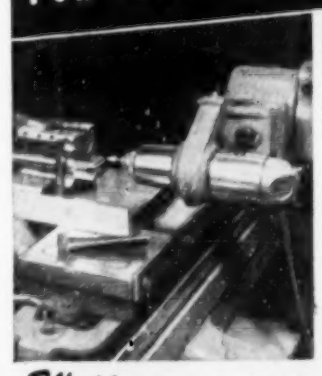
Send for Catalog No. 501

DURANT MANUFACTURING CO.
1930 N. Buffum St., Milwaukee 1, Wis. — 130 Orange St., Providence 3, R. I.
Representatives in Principal Cities

PRODUCTIMETERS SINCE 1879 *Count Everything*

If you write maker identify as IEN - 5108

LOWEST COST PRECISION FOR TOOL ROOM AND PRODUCTION



ONE PORTABLE MULTI-PURPOSE PRECISE GRINDER-MILLER WITH MACHINE TOOL MOUNT DOES THE WORK OF A SINGLE-PURPOSE MACHINE COSTING 100 TIMES AS MUCH!

Little can be done today to reduce labor and material costs. For substantial savings employ new, better techniques. Mount PRECISE Grinder-Millers on lathes, drill presses, milling machines and other machine tools or use in special production set-ups. ¼ HP, speeds from 20,000 to 45,000 r.p.m., 115 volts, AC-DC. Ruggedly built for continuous duty. All metal housing; rigid PRECISE quill; sealed micro-precision bearings. *High speeds and accurate PRECISE quill and chuck are ideal for tungsten carbide cutters.* PRECISE will grind, mill or finish any material from soft wood to the hardest alloy steel.

Write FOR NEW CATALOG

PRECISE PRODUCTS CORP., 1326 Clark St., Racine, Wis.

Precise **GRINDER-MILLERS**

If you write maker identify as IEN - 5109

NEW MARSH Serviceman Soundscope

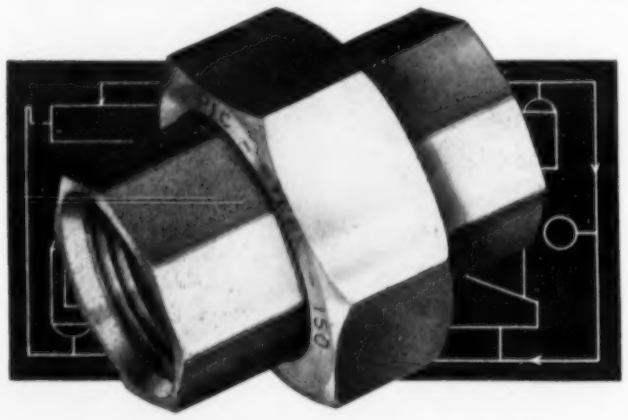
. . . cuts servicing and maintenance costs

Most effective instrument ever developed for pin-pointing and identifying mechanical defects. Saves time and dollars tracking down troubles in bearings, gears, mechanisms . . . detects leaks, knocks, piston slaps—any defects that make a sound. A precision instrument of Marsh quality, sensitive to faintest sounds . . . with handy probe and headband as illustrated. A remarkable tool, moderately priced.

Ask for Circular

MARSH INSTRUMENT CO.
Sales affiliate of Jas. P. Marsh Corporation
Dept. A, Skokie, Illinois

If you write maker identify as IEN - 5110



Pics fit your new Equipment PICture!

Yes, their eye-catching brightness and strength make these 150 lb. steel unions the choice for original equipment. They go on fast, too, because ends are uniformly flat-sided to accommodate open end wrenches. You can't hurt the steel pipe coupling stock either. Special wedge-type bronze seat for tight seal. Complete zinc plating, even on threads combats rust. Pics cost *less* than a galvanized, *no more* than a black malleable union.

Write for Samples
DART UNION COMPANY
130 THURBERS AVENUE, PROVIDENCE 5, R. I.

If you write maker identify as IEN - 5111

REDUCE COSTS ON "SMALL-WORK" GRINDING & FINISHING JOBS with Foredom FLEXIBLE SHAFT MACHINES

YOU GET ALL these superior features

- Feather-weight, finger-tip-controlled handpiece, (pencil size or larger) which eliminates operator fatigue.
- Choice of 5 handpiece types (all instantly interchangeable). You fit the handpiece to the job at hand.
- Extra good flexing qualities in the flexing shaft assembly for effortless maneuverability.
- Longer motor life because motor is not dwarfed to fit the hand.
- High speed which does not drop precipitately under load.
- Silencer-equipped flexible shaft for vibration-free performance.

BENCH OR HANG UP MODELS FOR HEAVY OR LIGHT DUTY

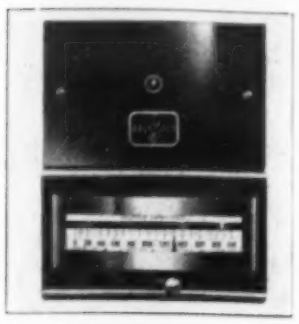
- Also flexible shaft tools attachable to your own drill press or motor
- Use Foredoms to GRIND, POLISH, DRILL, ROUT, CARVE, MILL, SAW, SLOT, CLEAN, SAND, ETCH, ENGRAVE, etc., etc.
- Write for Catalog N-4164

FOREDOM ELECTRIC CO. Dept. N-4164 27 PARK PLACE, N. Y. 7, N. Y.

If you write maker identify as IEN - 5112

CONTROL . . Electronic pyrometer to actuate contactors, relays, valves

Source: BRISTOL CO.
Griggs & Kelsey Sts., Waterbury 20, Conn.



Ask for Bulletin P1248

Series 536 designates a new line of Free-Vane electronic pyrometer controllers to regulate the action of one, two or three separate load circuits. Application is on furnaces, kilns, ovens, plastic molding machines and other heating equipment in an overall temperature range between 0 and 3,000 deg. F. The equipment is available in twelve intermediate ranges minimum at 0 to 400 deg. F. Failsafe or burnout protection provides for automatic shut down if the thermocouple burns out or fails for any reason such as a loose terminal connection or damaged extension wire insulation.

The basic instrument consists of the indicating pyrometer and the electronic Free-Vane control unit with a proportional input unit, the latter making it possible to convert a controller to proportional input control action. The control unit opens and closes a relay in the load circuit to regulate fuel supply to the equipment being served.

A vane attached to the pyrometer pointer passes freely between two coils mounted on the control point spotter arm. These coils connect into the electronic circuit. Passage of the vane between the coils alters the electrical characteristics, varies the frequency of oscillation. This frequency change is employed to actuate the control relay.

If you write maker identify as IEN - 5113

SAWING . . Portable tool attachment reciprocates blade, will pierce work

Source: ACRO TOOL & DIE WORKS
4550-54 Broadway, Chicago 40, Ill.

Ask for Bulletin 77

New attachment mounts on an electric or pneumatic drill, ¼ or ½-in. size, to provide a ⅞-in. stroke to the saw blade secured in its holder. The blade will pierce wood so no starting hole is required. It will cut steel, non-ferrous metals, plastics. It can be employed with a file instead of a saw blade.

The moving parts are made of hardened steel permanently lubricated. The housing is light weight alloy. The attachment weighs about 4 pounds.

Identify as IEN - 5114

Metal polishing is a specialty in the activities of Apollo Metal Works. It has installed modern high speed equipment with which it turns out its lines of prefinished metal products. The company now offers to apply the equipment on polishing work you may have on flat sheets and plate to 48 by 144 in. in thickness from 0.018 to 0.375. It can handle coils from 24 to 36 in. in width and 0.025 to 0.050 in. in thickness.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5115

ROTARY UNIONS

(Trade Name)

Type "S" Rotary Union

The Joint that Stays Tight

The ROTARY UNION is self-adjusting to pressure. Its construction takes strain off moving and sealing parts . . . thus staying tight far longer than ordinary connections for rotating shafts and drums. Three years of perfect service without mechanical maintenance of any sort, even under high speeds, pressures, and temperatures, is not unusual.

Our 40 standard models and sizes solve all ordinary sealing problems. Factory engineers are available at all offices to recommend the right models or to work out unusual problems. Call our nearest office or write Dept. 5E for our Catalog.

"Where *Good Connections* Count"

PERFECTING SERVICE COMPANY
332 Atando Avenue (Home Office and Factory) Charlotte, N.C.
Atlanta - Chicago - Cleveland - Philadelphia - Providence - New York - Montreal - Toronto

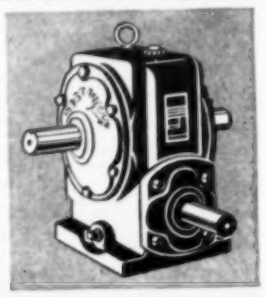
If you write maker identify as IEN - 5116

NEED SPEED REDUCERS?

250,000 cost-wise industrial buyers agree . . .

Best Buy is BOSTON Gear REDUCTORS

Deliver more trouble-free horsepower per dollar—last longer. Full range of types and sizes from .005 hp. to 36 hp.



IN STOCK *at your nearby*

BOSTON GEAR DISTRIBUTOR

Catalog on request. Ask your Boston Gear Distributor, or write: Boston Gear Works, 63 Hayward Street, Quincy 71, Mass.

If you write maker identify as IEN - 5117

HARGRAVE Tested Tools
THE CINCINNATI TOOL COMPANY

No. 44 FORGED STEEL SUPERCLAMP

Individually Power-Tested for Better Performance

Strongest Forged Steel Clamp for its weight and at the lowest price.
Frames are forged by our patented process from extremely stiff steel and are heat treated. The screws are hardened steel to prevent bending and battered threads and are of large diameter. Each Superclamp is tested on our Power Testing Machine before it goes into stock.

WRITE FOR CATALOG: Showing Clamps for all purposes, also Chisels, Punches, Star Drills, Brace Wrenches, Washer Cutters, File Cleaners, etc.

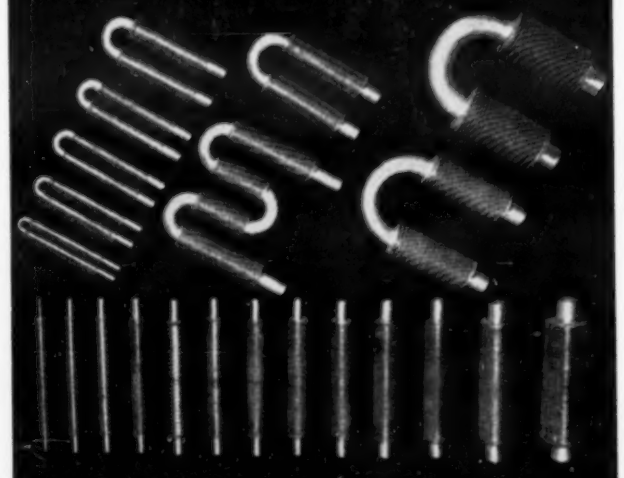
THE CINCINNATI TOOL COMPANY
1953 Waverly Ave. Cincinnati 12, Ohio

There is an Industrial Distributor stock near you

If you write maker identify as IEN - 5118

RO-FIN TUBES

IDEAL SURFACE FOR HEAT TRANSFER



Over 100 sizes in production!

ROME
TURNEY RADIATOR COMPANY

200 East Front Street • Rome • New York

If you write maker identify as IEN-5119

If you write maker identify as IEN-5120

NOW you can have longer-lasting direct prints that fairly sparkle with contrast

You get blacker-than-ever lines on whiter-than-ever backgrounds with DIRECTO, the new, improved Dietzgen semi-dry process that gives you ready-to-use direct positive prints in seconds. DIRECTO prints fight wear and tear, and even when oil-soaked, grime-smeared, sweat-stained they retain amazing legibility.

You are assured of uniformity because DIRECTO developing solution is chemically stable, always brings out strong black images, whether mixed fresh or old. And there's no washing, no lengthy drying, no negative needed. DIRECTO prints are made direct from your translucent original.

Compare this remarkable material with any other you have ever used. DIRECTO is available now with blue, pink, yellow and green backgrounds, as well as white, for convenient color coding. Send for samples.

EUGENE DIETZGEN CO. • Chicago • New York • San Francisco
New Orleans • Los Angeles • Pittsburgh • Washington
Philadelphia • Milwaukee • Dealers in All Principal Cities

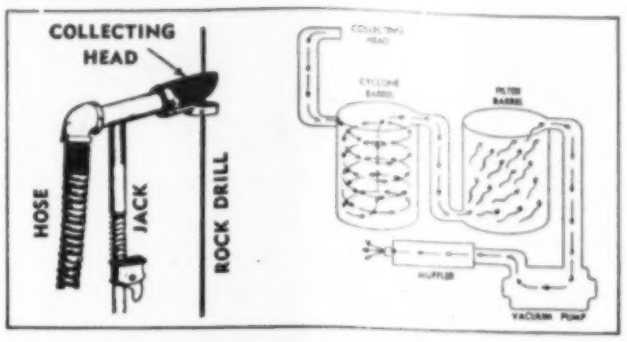
DIETZGEN
EVERYTHING FOR DRAFTING SURVEYING & PRINTMAKING

Free Samples!

If you write maker identify as IEN-5122

ROCK DRILLING . . Dust collector gathers drill dust for disposal

Source: MINE SAFETY APPLIANCES CO.
21 Braddock Ave., Pittsburgh 8, Pa.



Ask for Bulletin 1504-1

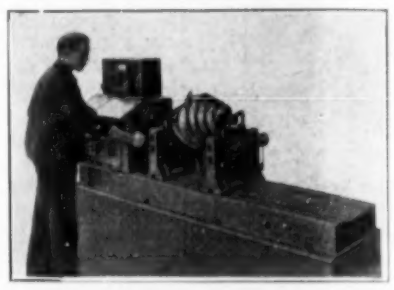
Dust created by percussion or rotary drilling, vertically upward, diagonally upward or vertically downward is collected by the company's new Bolt Hole Cleaner. The new unit starts with a collecting head that surrounds the drill rod and connects to a suction hose leading to a separator tank served by a motor driven blower. The dust settles out and the air passes through the blower.

The equipment was developed initially for use in connection drilling roof bolting holes in mines. It is available in various portable and semi-portable assemblies with electric or pneumatic drive or for connection to a compressed air distributing line. Dust is collected from around the drill as it is formed so the area surrounding the operation will remain clean.

If you write maker identify as IEN-5123

BALANCING . . Dynamic machine reads unbalance factor electrically

Source: COSA CORPORATION
626 Chrysler Bldg., New York 17, N. Y.



Made in Germany

A rotor to be balanced dynamically is mounted in bearings on adjustable support pedestals in this new Schenck machine. The bearings are restrained vertically but are free to move horizontally to act upon vibration pick-ups at the rear of each pedestal. The rotor is driven by universal joint connection to a motor. A phasing generator also turns with the rotor to supply a synchronous ac. signal.

The pickup signals and the generator signal are employed to provide readings on a wattmeter and so indicate the amount of added weight correction required at each of four predetermined points around the rotor. Rotating speed is not critical and can be adjusted in a range from 1 to 10.

Nine machines in the line take work weighing 0.2 to 220,000 pounds. Diameter range is 13¾ to 157 inches. Distance between bearings is maximum at 19⅝ to 248 in., with a standard bed length. Shaft diameter is maximum at 1 to 20 inches. Normal balancing speed is 1,500 to 180 rpm.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-5124

If you write maker identify as IEN-5125

If you write maker identify as IEN-5126

If you write maker identify as IEN-5127

If you write maker identify as IEN - 5128

When blast nozzles are protected with BORIUM inserts you save many ways: Because BORIUM (pure tungsten carbide) is so very hard and wear-resistant, orifices hold original size many times longer; high velocity, harder-hitting blast particles stay tightly concentrated on target for quicker clean-ups. Less compressed air is used, cutting power bills. One BORIUM nozzle outlasts hundreds of cast iron nozzles, when used with most common abrasives; avoids frequent nozzle changes! Why not try them?

Ask for Free Circular showing standard and special BORIUM nozzle designs, or send blueprints for quotation.

STOODY COMPANY
11930 E. Slauson Avenue
Whittier, California

If you write maker identify as IEN - 5129

HANSEN

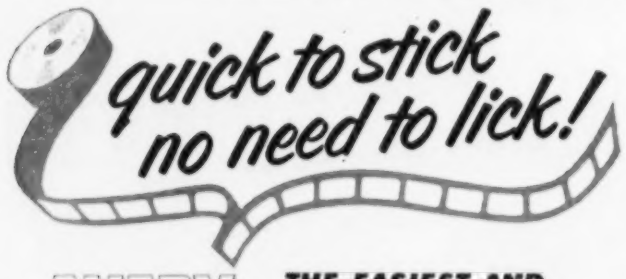
"PUSH-TITE" PNEUMATIC-HYDRAULIC COUPLINGS

Positive shut-off in socket immediately upon disconnection by removal of plug. To connect, simply push plug into socket. To disconnect, merely pull back sleeve. Holds high pressures. Swivel action prevents hose kinking. Pipe or hose connections. Socket, brass; plug, steel. Size range 1/8" to 1".

Also straight-through, and two-way shut-off couplings. Write for catalog.

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 11, OHIO

If you write maker identify as IEN - 5130



AVERY Kum-Kleen self-adhesive LABELS

THE EASIEST AND MOST ECONOMICAL LABEL YOU CAN USE!

- TRADEMARKS
- GUARANTEES
- NAMEPLATES
- DIAGRAMS
- APPROVAL SEALS
- INSTRUCTIONS
- "BUY" FEATURES
- WARNING
- INSPECTION
- PRICES

SAVE YOU TIME - MONEY!

An Avery label specialist will gladly explain how you can use Kum-Kleen pressure-sensitive labels profitably in YOUR business. Mail the coupon now for complete facts.

AVERY ADHESIVE LABEL CORPORATION
117 Liberty St., New York 6 • 1616 S. California Ave., Monrovia, Cal.
608 S. Dearborn St., Chicago 5 • Offices in other principal cities

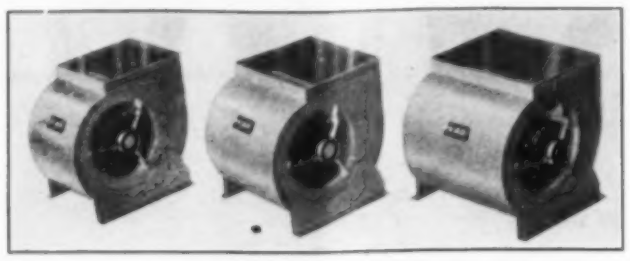
☐ Please send case histories and samples
☐ Tell us about your electric label dispenser
☐ Have the local Avery man call

Name
Title
Company
Address

If you write maker identify as IEN - 5131

VENTILATING . . Centrifugal blower mounts motor inside impeller wheel

Source: LAU BLOWER CO.
2020 Home Ave., Dayton 7, Ohio



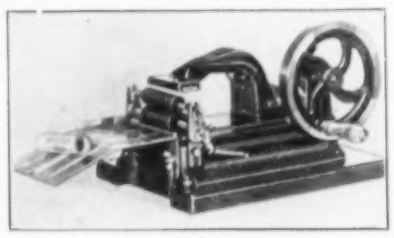
Variable speed is optional

Three sizes, with an air handling range between 300 and 1,200 cfm., are included in a new line of centrifugal blowers, particularly designed to serve forced warm air furnaces. The blowers will operate against static pressure between 0.1 and 0.8 inch. The smallet unit can be equipped with a 1/10, 1/8 or 1/6-hp. motor. The largest one takes 1/4 or 1/3 hp. All are supplied with a common motor mounting adjustable to fit motors of any one of the three ratings from any of three manufacturers. The motor can be adjusted to set the blower at a desired angle. The furnace manufacturer can employ a mounting of his own or attach a pair of standard mountings to meet given conditions in his product.

If you write maker identify as IEN - 5132

MARKING . . Hand operated machine to print on cylindrical work pieces

Source: ADOLPH COTTSCHO INC.
6-D Terminal Road, Hillside 5, N. J.



To 2,000 pieces per hour

Cylindrical work from 1/4 to 2 in. in diameter is positioned against a stop bar on the table of this new Cylindaprinter and the crank wheel at the rear of the machine is rotated. A connecting rod, from the crank to the type carrying head, moves forward on its base mounted slide to pass the type over the inking roll and then over the work. The latter moves forward in rolling action with the head until the mark has been completed. At this point it rolls away and the head is retracted for the next marking cycle. Type area is 3 1/2 by 1 1/8 inches.

The machine employs rubber type or dies. It transfers ink by means of a pick-up roll from a reservoir to a doctor roll and from there to the type. It is available in two sizes for cylindrical work from 1/4 to 2 in. and from 3/16 to 3/4 inch.

Identify as IEN - 5133

Vertical partitions mount at right angles in slots through the center of the new Hamerslag Equipment Company pallets. They divide the loading space on the pallet into four units. They steady the load and prevent weight compression. A folder is available on the subject.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5134

PEERLESS MAGIC HAND

A Totally New Concept in Vacuum Blanket Printers

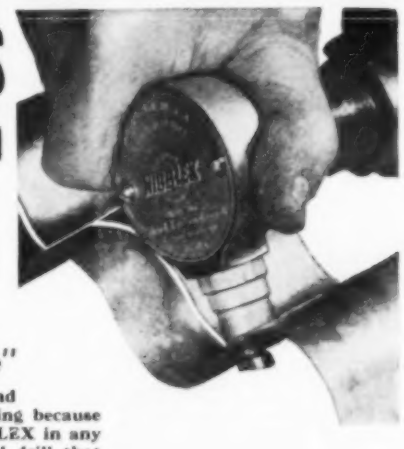
The big feature is a rubber blanket—the Magic Hand—which replaces the conventional heavy, rigid lid. The result is less print spoilage...faster, simpler multi-print loading...finer quality reproduction.

Why not let a Peerless distributor explain it in detail?
Write us for his name — he's a good man to know.

PEERLESS PHOTO PRODUCTS, INC.
Shoreham, Long Island, N. Y.
Manufacturers of Photocopy Papers and special-purpose Industrial Photocopy Equipment

If you write maker identify as IEN - 5135

CUTS CORRUGATED STEEL SHEETS



"slick as a whistle"

Faster than a hand shear and non-tiring because you use the NIBBLEX in any power driven hand drill that takes a 1/4" shank.

It's not a shear. It's a high precision punch and die that takes a bite of metal at each rotation of the hand drill. Hardened and tempered for use on any sheet metal or material up to 19 gauge, the NIBBLEX cuts clean, leaving no unfinished edges or burrs.

Perfect for cutting guards special shapes, production maintenance and sheet metal repair or replacement work in factory, repair shop or home.

Get yours today on 10 DAY FREE TRIAL.

For die work ask about the NORD DI-PROFILER

Price is only $13.75 with regular punch and die. $3.15 extra for corrugated punch.

Nord INTERNATIONAL CORP.
P. O. BOX 44-N • DENVILLE, N. J.

If you write maker identify as IEN - 5136

Grafo Lubricating Compounds

SINCE 1934

Only good products can be advertised continuously

1934 . . Hydrograf a colloidal graphite water concentrate diluted for parting compounds, for die and mold lubricants, for impregnation.

1937 . . Grafo Grease Concentrate for compounding greases and waxes.

1939 . . Assembly compound to condition bearings on initial running in.

1942 . . Shellgraf for use on dies and mandrels in shell forging operations.

1945 . . Diegraf for forging, drawing, stamping dies and molds.

1946 . . Kilngraf a ready-for-use graphited oil for kiln cars, oven chains and similar extreme heat applications.

1948 . . Grafolux a water compound for applications where the finest colloids are not needed.

1951 . . Grafo 5 NC to spray on the surface of forging dies.

1953 . . Colloidal graphite compounds for dependable lubrication and protection, performance proved over the years. Tell us about your tough lubrication problems and let us solve them.

GRAFO COLLOIDS CORPORATION
MANUFACTURERS OF Grafo COLLOIDAL PRODUCTS
299 WILKES PL.
SHARON, PENNSYLVANIA

If you write maker identify as IEN - 5137

Use Mutual LP-GAS Furnaces and Torches

REDUCE MAN HOURS CUT COSTS

For every industrial heating job LP-GAS will do it faster, better and cheaper. Reduce man hours and increase your profits with this modern fuel available everywhere. No pumping or priming. Starts instantly and won't blow out. Equipment is safe, lightweight, easy to handle. Mutual's 20 years' experience is built into every furnace, torch, heater and burner. Insist on MUTUAL—superior in performance and workmanship. You'll find our service superior too. Write us today about your heating or melting job. You'll receive our recommendation bulletin and prices by return mail.

Mutual LIQUID GAS EQUIPMENT CO., Inc.
3600 WEST IMPERIAL HIGHWAY, INGLEWOOD, CALIF.

If you write maker identify as IEN - 5138

CAL-WIC WIRE CLOTH

In all Meshes, Weaves and Weights

Filtering, screening or grading—whatever your special job demands may be—Cal-Wic Wire Cloth is available in the right mesh, weave or weight to meet your requirements. Resistance to corrosion, abrasion and temperature extremes assured through the use of appropriate metals and alloys.

The long-wearing qualities of Cal-Wic Wire Cloth take on added importance during times like the present.

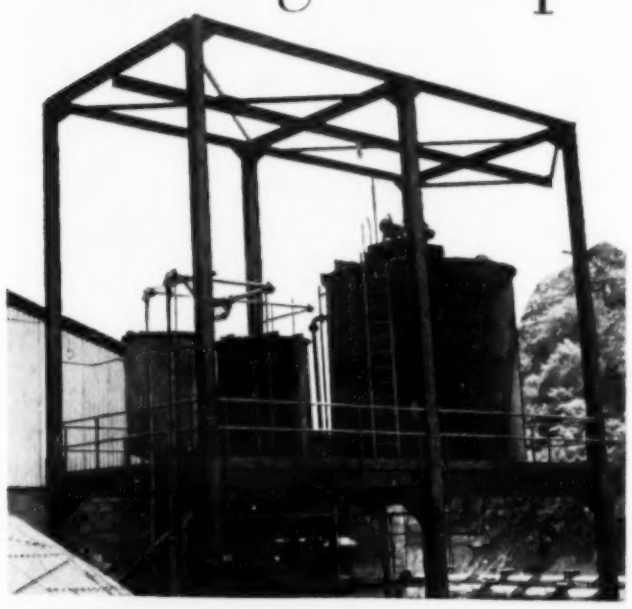
For additional information write or phone our nearest sales office.

EAST: Wickwire Spencer Steel Division, Clinton, Mass.
WEST: The Colorado Fuel & Iron Corporation, Denver, Colorado.
PACIFIC COAST: The California Wire Cloth Corporation, Oakland, Calif.

CAL-WIC CF&I
INDUSTRIAL SCREENS
THE COLORADO FUEL AND IRON CORPORATION

If you write maker identify as IEN - 5139

Too big to ship



so U.S. Permobond® protective linings were installed on the spot

Equipment requiring protection against corrosive attack can be lined with Permobond linings—*right in your own plant*. The above storage tanks in a chemical plant, for example, were too big to be shipped. So United States Rubber Company's Permobond Lining was installed and vulcanized right at the job site—insuring complete protection against the corrosive chemicals stored in the tanks.

This is one more example of the versatility and adaptability of the Permobond process. You can also have it installed *as original equipment* on anything that contains or conveys corrosive materials and chemicals—piping, tanks, valves. And where special conditions occur, a wide range of synthetic Permobond lining stocks is available. Write to the address below.

These hundreds of electrolytic mercury cells producing caustic soda and chlorine are lined with specially compounded Permobond hard rubber lining.

"U.S." Research perfects it
"U.S." Production builds it
U.S. Industry depends on it

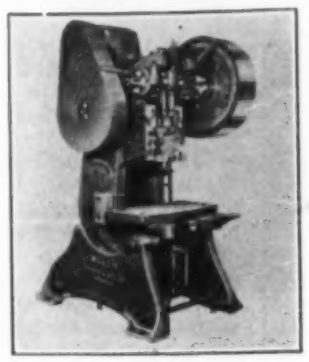
U.S. RUBBER
SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY
Mechanical Goods Division • Rockefeller Center, New York 20, N. Y.
Hose • Belting • Expansion Joints • Rubber-to-metal Products • Oil Field Specialties • Plastic Pipe & Fittings • Molded & Extruded Rubber & Plastic Products • Protective Linings & Coatings • Grinding Wheels • Packings Tapes • Conductive Rubber • Adhesives • Roll Coverings • Mats & Matting

If you write maker identify as IEN - 5141

PRESS . . Open back inclinable, 38 ton, 4 in. stroke, 2 in. adjustment

Source: WALSH PRESS & DIE CO.
4743 W. Kinzie St., Chicago 44, Ill.



Ask for Bulletin 951

Type 38X is a new addition to the company's line of open back inclinable presses. It is available in plain and back geared assembly for maximum flywheel speed of 110 or 50 rpm.

Die space, with the stroke down and adjustment up, measures 11 in. on the standard 4-in. stroke. Bolster area is 32¼ by 18½ inches. Floor space measures 41 by 60 in. when the press is in upright position. Control centers in a non-repeating attachment that can be set for blanking, continuous running, forming and for second operation work.

If you write maker identify as IEN - 5142

STEEL . . Free machining bar stock for use in high speed screw machines

Source: JONES & LAUGHLIN STEEL CORP.
455 Gateway Center, Pittsburgh 30, Pa.

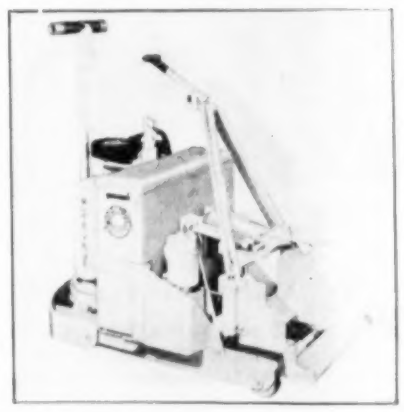
Rounds, squares, hexagons, flats

Series 1200 is a new free machining steel supplied in the form of cold finished bar stock. The steel is similar to SAE Series 1100. Cold drawing shapes and sizes the bars and increases strength of the steel while lowering its ductility to provide a combination of favorable qualities for the machining operations. A little more than the usual amount of manganese provides strength without toughening the structure. Carbon is balanced for correct hardness and brittleness.

If you write maker identify as IEN - 5143

TRUCK . . Three wheel tractor grips trailer body in hydraulic clamp

Source: MOTO-TRUC CO.
1987 E. 59th St., Cleveland 3, Ohio



The operator walks

Grip-All trade names a new battery powered motor driven tractor equipped with an adjustable hydraulic clamp to grip the body of a trailer for movement from one location to another. The tractor measures 48 in. in length by 27 in. in width. It takes a 12 or 18-volt battery. Drawbar pull is about 700 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5144

when you go courting lower costs

first check the SPRAY NOZZLES used in the system

More exact spray nozzle design...with nozzle capacity better adapted to the character of the liquid being sprayed can often materially improve spraying operations and lower your costs. That's why Spraying Systems Spray Nozzles are worth checking. Thousands of types and capacities to choose from. Designed and built by America's leading spray nozzle manufacturers. The most widely used nozzles in America today among equipment builders and engineering firms.

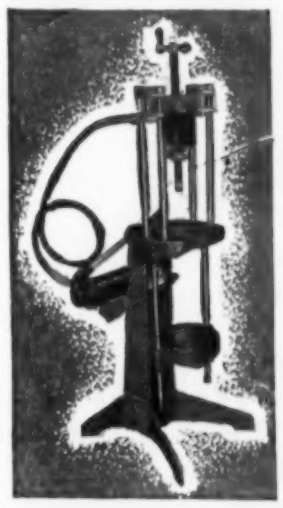
WRITE TODAY . . . let us send you General Catalog No. 22 and Pneumatic Atomizing Nozzle Catalog No. 23. Scores of Data Sheets also available covering specialized applications.

SPRAYING SYSTEMS CO.
3208 Randolph Street
BELLWOOD • ILLINOIS

If you write maker identify as IEN - 5145

OTC **17½ TON HYDRAULIC**
OPEN THROAT PORTABLE
PEDESTAL PRESS

ONLY **$199.95**
SAVES HOURS AND DOLLARS ON EVERY JOB



An unbelievable low price for this amazingly efficient Portable Pedestal Press and 17½ ton Power-Twin Hydraulic Puller . . . a must for every maintenance shop. Pays for itself on the first few jobs in time, tools and money saved.

Use it for pressing bearings, bushings, pins, for bending, straightening, compressing, spreading, etc. Move it where you want it—it's portable.

STRONG . . . will handle 95% of all pulling or installing jobs.

COMPACT . . . Base is only 20" x 21" — 34¼" from top of press plate to floor. Press Plate throat is 7½" deep, 6" wide, 10½" clearance between uprights; 11" from Ram to press plate with almost unlimited vertical adjustment. Weighs less than 200 lbs.

VERSATILE . . . POWER-TWIN Hydraulic Unit may easily and quickly be detached for field service or other pulling jobs.

INEXPENSIVE . . . dollar for dollar . . . ton for ton . . . the lowest priced, most rugged and efficient Hydraulic Press on the market.

See your jobber for complete information or write us.

OWATONNA TOOL CO.
371 CEDAR STREET • OWATONNA, MINNESOTA

If you write maker identify as IEN - 5146

G-E Lightbeam Vibrometer Cuts Testing Time in Half

- Used to trace vibration in machinery, gears and buildings.
- Available with 15- or 30-mil scale range.
- Frequency range is 15-250 cps.
- High accuracy of ±3% full scale.

PRICE
$195.00*

Contact your nearest G-E sales office. General Electric Co., Schenectady, N. Y.

*Manufacturer's Suggested Price.

605-16

GENERAL ELECTRIC

If you write maker identify as IEN - 5147

DEBURRS GRINDS POLISHES

NEW benchmaster belt sander

Ideal for all abrading operations on metals, glass, plastics, rubber, etc! Positive trackage adjustment. No fast wearing auxiliary trackage devices required.

Uses any belt from ¼" to 1" wide by 44" long. Spring or positive belt tension. Speeds up to 8000 S.F.M.

Liquid-proof, dust-proof, double row, double sealed ball bearings in both wheels. Aluminum construction—light weight yet sturdy. Unusually efficient on light, delicate work, yet a husky, small low-cost belt sander!

write for details!

benchmaster
MANUFACTURING COMPANY
1835 West Rosecrans Avenue
Gardena, California

If you write maker identify as IEN - 5148

The Really Rugged Bar Iron Truck You've been waiting for!

Heavy duty for bars, tubes and angles.

LANSING COMPANY

TRUCKS · BARROWS · CARTS
TRAILERS · CASTERS · SKIDS

"Keep Your Products on Wheels"

Main Office and Factory: LANSING, MICH.

If you write maker identify as IEN - 5149

DON'T WAIT 'TIL TOO LATE

Model 218

Clean plants get those important defense jobs. Get your plant cleaned up now. A week or month from now may be too late.

Send for important Doyle Vac-It information today. There's no obligation.

Doyle VACUUM CLEANER CO.

2235 Stevens St., S. W. Grand Rapids 7, Mich.

If you write maker identify as IEN - 5150

The New Super-Hard Carbide Drill

Up to 200% Greater Life

A Better Drill For Hardened Steel

Long carbide end keeps cutting heat away from braze.

Write for Catalog Supplement No. 4

QUALITY CARBIDE TOOLS

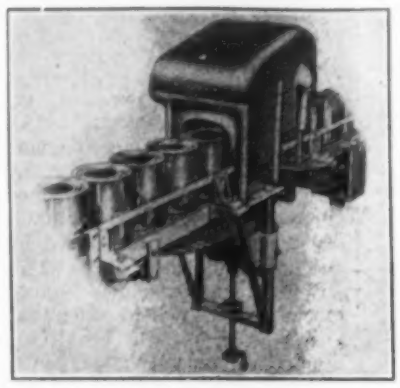
Super TOOL COMPANY

21650 Hoover Rd., Detroit 13 · 5210 San Fernando Rd., Glendale 3

If you write maker identify as IEN - 5151

MARKING . . Roll type machine prints on top of passing containers

Source: BARRY-WEHMILLER MACHINERY CO.
4664 W. Florissant Ave., St. Louis 15, Mo.



Ask for Bulletin 304

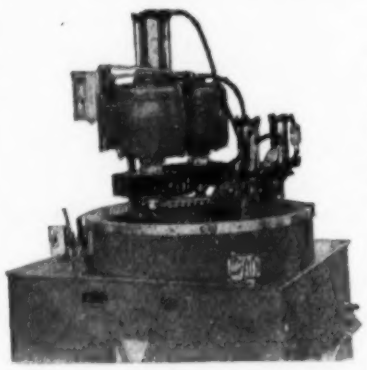
Bruceway trade names a new marking machine for installation on a conveyor line on which containers are moved by power in a steady line. Each container passing through the machine operates a pair of star wheels mounted on vertical shafts. These shafts are geared to a horizontal shaft in the machine head. It carries a wheel in which are interchangeable type. This wheel rolls the type over the container tops to make an ink impression.

Two sizes are available. The smallest adjusts for container height from 2 to 8½ in. and for diameter from 1¾ to 3¾ inches. The larger unit is adjustable from 2¼ to 12 in. in height and from about 3 to 7½ in. in diameter.

If you write maker identify as IEN - 5152

BURRING . . Double head machine for compressor stators on jet turbines

Source: GRINDING & POLISHING MACHINERY CORP.
2528-32 Winthrop Ave., Indianapolis 5, Ind.



Built to order

Two heads, each motor driven, mount vertically in this new machine. They apply the Vonnegut brush backed polishing wheels for burr removal from aluminum ring sections for jet turbine compressors. The work pieces apply around the heads on a power driven rotating ring. They are positioned by pressure operated interchangeable clamping devices.

A test application showed one minute required for a cycle of loading, burring, and unloading a pair of 32-in. aluminum half rings. An 8-hr. day was required previously to burr a set of 24 half rings. The machine does the job in 12 minutes.

Identify as IEN - 5153

Fence painting is simplified if you equip your painter with the roll type applicator and paint container that Fencepainter Company can supply. You can purchase an enamel particularly for wire fences from the same source. You dip and roll the applicator in the container and then on the fence. No splash, little drip, and a good fast job results.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5154

SPEED UP SLOW-FLOW MATERIALS

TARS
PLASTICIZERS
WAXES
MOLASSES
GLUES
RESINS
GREASES
GUMS . . ETC.

ACRAWATT ELECTRIC

DRUM HEATERS

FIT ALL STANDARD 22¼" DRUMS

- Proven Acrawatt THINSTRIP Construction.
- 3 Heats: 3000 Watts 230 Volts.
- Fast Heat Transfer.
- Aluminized Steel Encased.
- Enclosed Wiring Terminals.
- Low Radiant Loss.
- Fully Insulated.
- Easy to Install and Remove.

Kill time-consuming, costly slow-flow of viscous materials. Slip one or more Acrawatt Drum Heaters on your drums. Make cloggy, sluggish contents get a move on. Go on and off in a jiffy. Safe and simple to apply and operate. Use singly or in multiple. Save with Acrawatt reliability, long life ruggedness and efficiency. Order today.

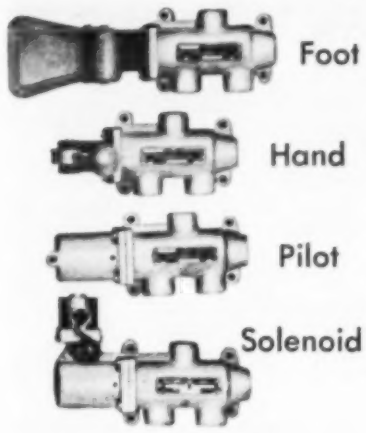
ORDER NOW
EA. $19.50 F.O.B. CHICAGO
Spot Shipment
Shipping Wgt. 10 Lbs.

FOR BETTER ELECTRIC HEATERS AT BETTER PRICES, LET US QUOTE

ACRA INDUSTRIAL ELECTRIC CO.

9905 PACIFIC AVENUE • FRANKLIN PARK, ILLINOIS

If you write maker identify as IEN - 5155



New Schrader 4-Way Valves

These new Schrader Valves are primarily designed to operate Double-Acting Cylinders. Their simplified design and construction assure long service with minimum maintenance. Can be serviced without removal from air hose. Available in ¼, ⅜, ½ and ¾ N.P.T., they are produced for flow capacities from 160 to 425 cfm free air at 100 psi inlet pressure.

A. SCHRADER'S SON

Division of Scovill Manufacturing Company, Incorporated
458 Vanderbilt Avenue, Brooklyn 38, N.Y., Dept. D-49

If you write maker identify as IEN - 5156

Write for New 16 Page Catalog

ONE MILLION RELAYS

Over 1000 Types

24 HOUR DELIVERY FROM OUR STOCK!

- Standard, Respected Brands
- Brand New, Boxed
- Inspected and Guaranteed
- Priced to Your Advantage

Our relay stock, which is the world's largest, has been carefully built up over a period of several years. Nothing but first run, professionally selected items are carried.

Send us your relay requirements. You will receive immediate quotations.

samples on request. Phone, Wire or Write

Relay Sales

SEeley 8-4146

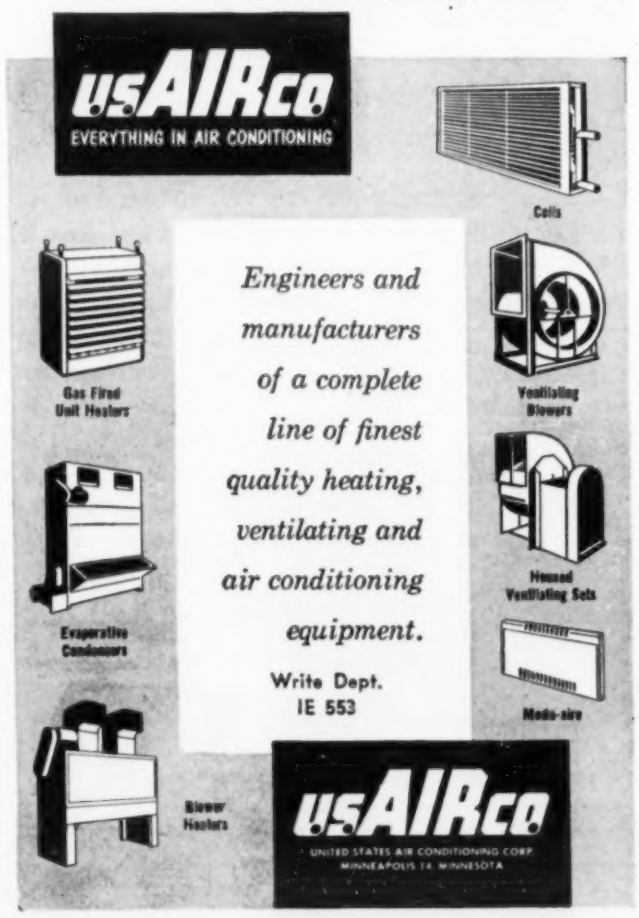
4721 W. MADISON STREET

DEPT. NO. 9 CHICAGO 44, ILLINOIS

If you write maker identify as IEN - 5157

U.S. AIR CO.

EVERYTHING IN AIR CONDITIONING



Engineers and manufacturers of a complete line of finest quality heating, ventilating and air conditioning equipment.

Write Dept. IE 553

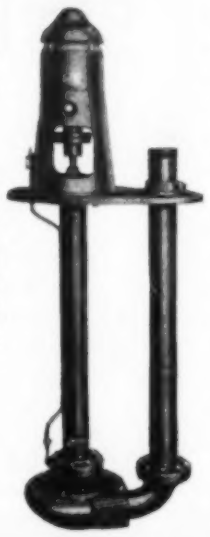
U.S. AIR CO.

UNITED STATES AIR CONDITIONING CORP.
MINNEAPOLIS 14, MINNESOTA

If you write maker identify as IEN-5158

NEED A *Sump* PUMP?

A Warren-Quimby Type VS or VN might very well be your answer.



These centrifugal pumps are an economical and dependable means for drainage wherever water or other liquids must be raised from a pit to a higher level. Simple in design, rugged in construction, they can be depended upon to reduce maintenance and to be always ready when needed. They are easy to install, because each unit is designed for its particular location, and they are quiet in operation.

Sizes: 1½" to 8"

Send for Bulletin WQ-220 giving Specifications, Selection Chart, etc.

IEN-10

WARREN PUMPS

WARREN STEAM PUMP COMPANY, INC., WARREN, MASSACHUSETTS

If you write maker identify as IEN-5159

clean HYDRAULIC OIL STOPS

downtime and costly repairs to hydraulic equipment

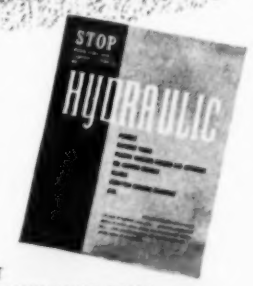
Honan-Crane HYDRAULIC OIL PURIFIER

- Removes Solid Abrasive Contamination
- Removes Corrosive Products of Oxidation
- Prevents Sludging
- Keeps Oil CLEAN and SAFE to Use Indefinitely

Sizes for direct connection to individual machines . . . mobile units for general plant service.

Get FREE Booklet

8-page "Hydraulic Bulletin" with case histories describing profitable advantages of Honan-Crane Purification in many critical hydraulic applications. Write for your copy!



ALL HONAN-CRANE EQUIPMENT IS SOLD ON A PERFORMANCE GUARANTEED BASIS

Honan-Crane Corporation
802 Wabash Avenue, Lebanon, Indiana
A Subsidiary of
Houdaille-Hershey Corp.

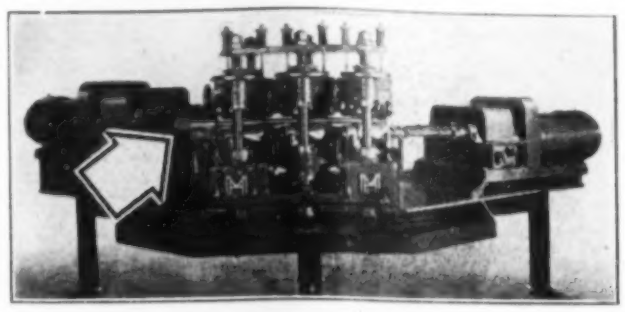
WORLD'S LEADING OIL FILTER MANUFACTURER

In Canada: E. W. PLAYFORD, LTD., Montreal 28
W. E. MICKLETHWAITE Toronto 18

If you write maker identify as IEN-5161

STRAIGHTENING . . Roll type machine for ¼ to 1½ in. pipe and tube

Source: MACKINTOSH-HEMPHILL CO.
899-903 Bingham St., Pittsburgh 3, Pa.



Arrow indicates work entry

Model AX is a new assembly in the company's miniature line of straightening equipment. It employs the same principle of angularly positioned rolls that is used in the much larger straightening machines for bar and tube. Three sets of identically contoured twin cross rolls are power driven by motors at the two sides of the assembly for forward work movement at variable speed to 350 f/m. The middle pair of rolls can be adjusted to provide off-set for the required straightening effect. Each of the rolls in all three sets is adjustable for angle so each bears along its face on a given run of work.

The work is fed through a tube guide at the left hand side. It passes between the rolls to issue straight at the right hand side completely free from cuts or spiral run marks. The motors rate 3 hp. Assembly is on a steel table to assist in installation in a production line. Lubricant is directed at the points where the tube or pipe is in contact with each pair of rolls. A steel shield mounts in front of the straightening section. It is equipped with two inspection windows. It deflects any splashing lubricant into a collection tray. The shield has been removed from the illustrated assembly. Floor space measures about 8 by 5½ feet.

If you write maker identify as IEN-5162

PRESS ATTACHMENT . . Air cylinder to counterbalance weight of press ram

Source: DAYTON ROGERS MFG. CO.
2822-26 13th Ave. S., Minneapolis 7, Minn.

Eliminates unbalanced weight

New design of counterbalancing cylinder for power presses and brakes, previously described IEN-8050-41, is available in 5 to 12-in. bores and specified stroke. The cylinder mounts singly or in multiple on a press frame. It attaches to the ram assembly and to a source for compressed air through a regulating valve. Upward thrust by the piston takes the weight of the ram assembly, cushions the press operation in blanking at the point of "break through", permits setting the press brake lightly since ram weight is balanced.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-5163

P-S AIR SAVER leak proof AIR VALVE

—For Maximum Machine Tool Efficiency—give you perfect, leak-proof air power control every split-second of machine tool operation. Ideally suited where air is used for cleaning, drying, cooling, positioning or ejecting. Recommended around punch presses, die casting machinery, drill presses, in reaming, broaching and many other operations. Provide ample air volume for operation of single or multiple jets. Mount in any position, to operate at any angle unaffected by vibration. Immediate Delivery

Palmer-Shile Co.
16009 FULLERTON AVE., DETROIT 27, MICH.

If you write maker identify as IEN-5164

Your Best Buy in Burs!

S.S.WHITE BURS cut fast, clean and cool and give long-lasting economical service. Cutting edges are keen — and stay sharp. There's a full selection of sizes and shapes of chromed, and carbide burs for cutting brass, steel, wood, hard rubber, bone or any other material that can be bored or milled by sharp-edged hardened steel tools.

WRITE TODAY for 50-page Catalog T-51

It completely describes the full line of S.S. White flexible shaft tools and other industrial products.

THE S.S.White INDUSTRIAL DIVISION
DENTAL MFG. CO.
Dept. N, 10 East 40th St.
NEW YORK 16 • N. Y.

WESTERN DISTRICT OFFICE: Times Bldg., Long Beach, Calif.

If you write maker identify as IEN-5165

FAST, NEW METHOD FOR SANDING FILLER ON CASTINGS

Sundstrand *Straight-Line Action* Air Sander saves time...gives more uniform finish!

Here's the proven, *better* way to sand filler on castings. New Sundstrand Single Pad Air Sander gives a fast cut . . . quickly, evenly removes high spots . . . and because of its compact size and *straight-line action* gets into close quarters, up next to edges and moldings. Results in exceptionally fine finish . . . ideal for many other sanding operations on wood, metal, or plastics.

SUNDSTRAND

SUNDSTRAND AIR SANDERS
SUNDSTRAND MACHINE TOOL CO.
PNEUMATIC DIVISION, ROCKFORD, ILLINOIS

If you write maker identify as IEN-5166

Plastic Seal BETTER PACKAGING *at* LOWER COST!

Protects parts
FROM RUST AND DAMAGE
while handling or shipping!

Plastic Seal forms a skin tight coating that is moisture-proof and air-tight. Strongly resists shock and abrasion. Ideal for bulk shipments — requires less wrapping — reduces cost. Although Plastic Seal is tough it can be easily peeled. Transparency allows instant inspection and identification. Also available in colors for coding.

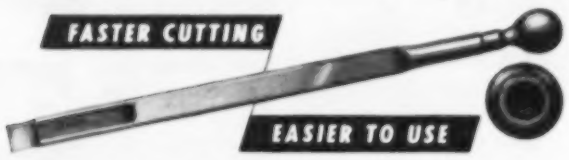
Write today for price information and free engineering service on production dipping problems.

GLOBE *Imperial Corporation*
2023 Kishwaukee St., Rockford, Illinois

If you write maker identify as **IEN - 5167**

NEW IMPROVED HAND SCRAPERS

with just the correct spring



and other features never before incorporated in any hand scraper

This new Hand Scraper, Model No. 5, is the most improved tool of its kind ever produced. Light in weight, easier to use with palm fitting comfort grip, faster cutting. Rubber handle swivel pad, at small extra cost, for those who place scraper handle against body for extra leverage. Three sizes: 18"—20"—22" long. Furnished with high speed steel or Carboloy Blades. Cost less than home made scrapers.

Write for Bulletin No. 5-35

Anderson BROS MFG CO

ANDERSON BROS. MFG. CO., ROCKFORD, ILL.

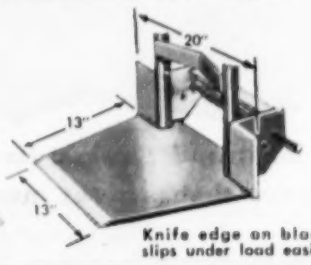
If you write maker identify as **IEN - 5168**

ECONOMY *Shovel Truck*

FOR HEAVY DUTY SERVICE

A choice of either 6" or 8" diameter wheels, interchangeable at any time by a simple shift of axel position on the truck frame, is a practical feature of this sturdy hand truck.

This rugged all steel truck is ideal for handling heavy cartons, kegs, boxes and crated machine parts. Tubular handles are 51" high.



Knife edge on blade slips under load easily

DIA.	WHEELS TREAD	RECOMMENDED CAPACITY AND USE	PRICE
6"	Semi-Steel Roller Brg.	Up to 1000# on smooth, hard floors	$29.48
	Solid Rubber Durex Brgs.	Up to 500# on finished floors	$32.16
8"	Semi-Steel Roller Brg.	Up to 1000# on rough floors	$34.84
	Semi-Pneumatic Rubber Roller Brg.	Up to 500# on uneven floors	$36.18

Order from your jobber or direct from

ECONOMY ENGINEERING CO.
4502 W. Lake Street, Chicago 24, Ill.

PRICES NET F.O.B. CHICAGO

If you write maker identify as **IEN - 5169**

IT'S 75 to 1

Abart has the EXACT SPEED REDUCER for your application!

Choose the ABART Speed Reducer you need from the complete line of over 75 different ABART models—spur, worm, and combination gear. Ratings from 1/50 to 168 hp., with ratios up to 10,000 to 1. ABART Speed Reducers help make the products you design and manufacture—better!

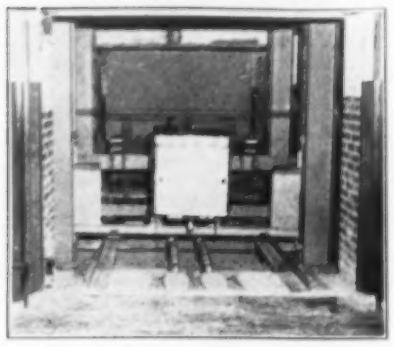
Send for handy pocket-size ABART Catalog today!

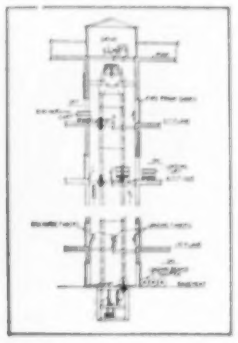
Abart GEAR & MACHINE CO.
4823 WEST 16th STREET • CHICAGO 50, ILLINOIS
Mfrs. of Gears, Speed Reducers and Gearmotors

If you write maker identify as **IEN - 5170**

CONVEYING . . Vertical assembly of chain and carriers to handle trucks

Source: GIFFORD-WOOD CO.
3 Hudson Ave., Hudson, N. Y.





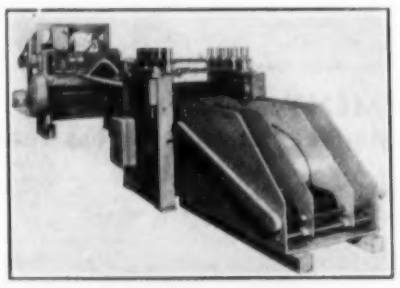
Installation in a textile plant

Trucks or cylindrical loads, are rolled into carrying position over hinged fingers on the upward-moving side of this new vertical chain conveyor. They are carried up, over the head sprockets and down for discharge at a floor where unloading fingers are moved into active position. The equipment is designed to serve a specified number of floors. Safety interlocks prevent operation unless loading and unloading fingers are in correct position for proper sequence.

If you write maker identify as **IEN - 5171**

SHEARING . . Automatic assembly of shear, leveler and coil cradle

Source: UNION TOOL CORP.
316 E. Market St., Warsaw, Ind.



One worker watches

Steel coils to 13 gage, or coils of aluminum, brass or other metal, are positioned one at a time in the cradle at the right hand side of this new automatic assembly. The coil is threaded through a roll type leveler which also acts as the feed. It passes from the leveler over a "hump" that permits slack to gather while the shear, to the left, is in operation. Coils measuring from 6 to 60 in. can be handled.

Shear lengths are from 6 to 60 in. on accuracy within 1/64 inch. Length can be changed following one adjustment. Sheared pieces are stacked in an orderly pile. Speed, along the material being cut, is to 150 feet per minute.

Identify as **IEN - 5172**

A manufacturer who had purchased a quantity of the Amidon scaffold fittings, IEN-7016-52, needed an extensive storage rack for his stock room. He made the rack, using the fittings and scrap pipe with floor planks for the shelves. When he no longer needs the rack he can take it apart, after loosening the fitting screws, and return the materials to stock.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 5173**

SMALL IN SIZE . . . POWERFUL IN ACTION

'Tugit' is the only lever-operated lifting and pulling tool built like a hoist. It gives you efficient, spur-gear action; has a powerful, automatic load brake for fast, smooth, safety-first operation. It's light, portable. Fits into any tool box. A compact hoist — functions perfectly at any angle in close quarters. Maintenance men, contractors, railroad repair men, utility crews, metal fabricators use 'Tugit' to speed work. Ask your "Shaw-Box" Distributor to demonstrate a 'Tugit' or write us for a copy of Bulletin No. 388.

'TUGIT'® HOISTS

MANNING, MAXWELL & MOORE, INC.
MUSKEGON, MICHIGAN

Builders of "Shaw-Box" and 'Load Lifter' Cranes, 'Budgit' and 'Load Lifter' Hoists and other lifting specialties. Makers of 'Ashcroft' Gauges, 'Hancock' Valves, 'Consolidated' Safety and Relief Valves, 'American' Industrial Instruments, and Aircraft Products.

If you write maker identify as **IEN - 5174**

Low Temperature Melting CERRO ALLOYS

can save you Time • Labor • Money

. . . If you—

- make stamping dies
- locate bearings, non-moving parts in machinery
- make chuck-jaws
- bend thin-walled tubing
- make molds for plastics
- proof cast forging molds, dies, etc.
- bend metal molding and tubing

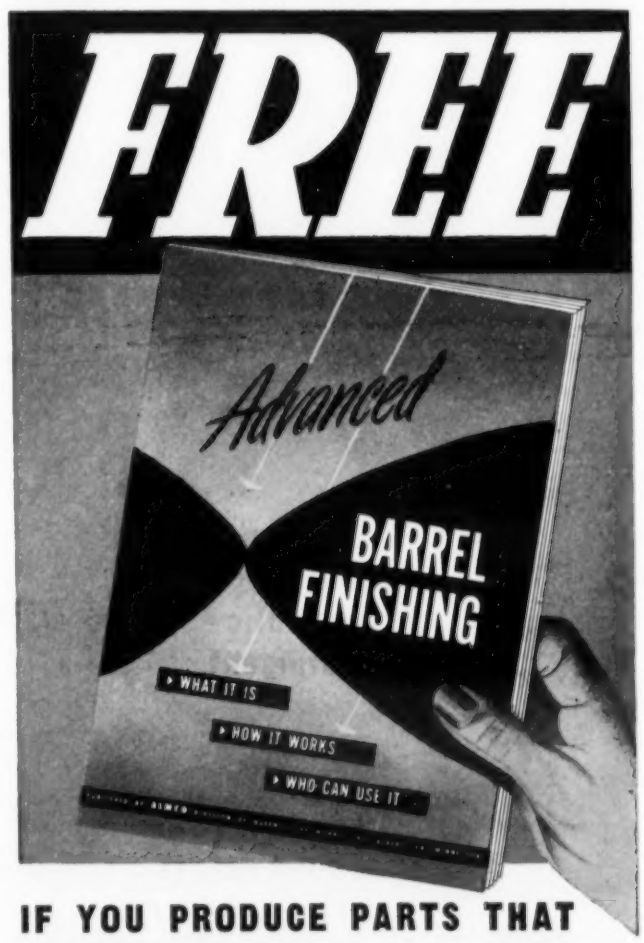
FOR COMPLETE INFORMATION, send for free "Cerro Alloy Application Data."

See the Cerro Alloy Exhibit at First Exposition of Basic Materials for Industry, Grand Central Palace, New York, June 15-19.

CERRO DE PASCO CORPORATION
Dept. 6, 40 Wall St., New York 5, N. Y.

If you write maker identify as **IEN - 5175**

FREE



IF YOU PRODUCE PARTS THAT REQUIRE FINISHING OF ANY KIND

This 22-page booklet is *guaranteed* to open your eyes! It gives you the inside story of advanced barrel finishing *as never told before.*

In the last five years, barrel finishing has made rapid advances. Only those directly connected have been able to keep up. *Only* 30% of the nation's manufacturers are benefiting from the tremendous cost savings and improved finishes made possible by these advances.

Now is the time to investigate this labor-saving, cost-cutting method. ALMCO barrel finishing equipment has completely paid for itself *in as little as two months!* This is easy to understand. A single unit installation replaces from two to twelve men. Savings run as high as 95%.

"Advance Barrel Finishing" is the only mass deburring, grinding and finishing method where results are *controlled.* Amazing results are now possible on almost all types of parts from large castings to small intricate parts. Close tolerance parts can be finished with absolute uniformity to almost any desired micro-inch reading.

WRITE TODAY FOR YOUR *FREE* COPY
ASK FOR BOOKLET No. G-5

ALMCO Supersheen

AMERICA'S LARGEST MANUFACTURER OF ADVANCED BARREL FINISHING EQUIPMENT—MATERIALS AND COMPOUNDS
ALBERT LEA, MINNESOTA

If you write maker identify as IEN - 5177

If you write maker identify as IEN - 5178

The exclusive, patented 2-speed feature of this Mark-Time unit makes it TWO timers in one! . . . and puts more "sell" into your appliances!

Here's why: in the long-time position, the user can measure time up to ONE HOUR for baking, roasting, stewing and other lengthy cooking operations . . . can use it as a reminder for appointments and other household jobs, too! By moving the lever to the short-time position, the user can obtain settings within seconds for boiling eggs, pressure cooking . . . precise timing for all short time jobs up to SIX MINUTES, where even fractions of a minute are important.

At the end of the pre-set time period, in either long or short range, this timer gives a clear, resonant bell signal.

Available with a wide variety of modern dials and knobs; also in 2-hour, 12-minute range.

Write today for full details and prices.

MARK-TIME

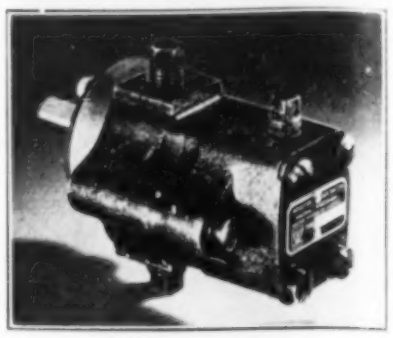
M. H. RHODES, INC.
HARTFORD, CONNECTICUT

Manufactured and sold in Canada by
SPERRY GYROSCOPE OTTAWA, Limited
3 Hamilton St., Ottawa, Ontario, Canada

If you write maker identify as IEN - 5180

PUMP . . Gear type hydraulic for positive displacement of fuel oil

Source: WEBSTER ELECTRIC CO.
1902 Clark St., Racine, Wis.



For burner duty

Five sizes are available in the company's new Series LAM line of gear type pumps. They will handle No. 2, 3 or 4 fuel oil cold or No. 5 fuel oil after it has been heated. Capacities range from 10 to 65 gph. at 1,800 rpm. and 100 pounds. An internal relief valve can be set at 50 to 200 pounds. It operates as a safety and not as a regulating or control valve. The company is prepared to supply the pump alone or in assembly with a 110/220 volt motor. Mounting boss diameter is 2⅛ inches.

If you write maker identify as IEN - 5181

MOTOR . . Vertical drip proof, 1/3 hp. ac. for rotary lawnmower

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.

Blue grey finish

Sealed, permanently lubricated bearings, drip proof design, windings to compensate for voltage drop in a 100-ft. extension cord, built-in thermal protecting manual reset, feature the construction of this new motor in the company's Form-G line. The ⅝-in. shaft is threaded and fitted with a shoulder to take the blade assembly on a standard rotary lawn mower. Rotating speed is 1,725 or 3,450 rpm.

If you write maker identify as IEN - 5182

BATTERY . . Lead acid storage unit for motor vehicles, has catalyst caps

Source: HESTER BATTERY MFG. CO.
8-12 Culvert St., Nashville 10, Tenn.

About $28 and $30

New catalyst filler caps, previously described IEN-1728-53, are standard equipment on this new 6-volt automotive storage battery. These caps convert the normally escaping battery gases back into water. They also recover and return the acid vapors. Advance warning of breakdown and dangerous overcharge is indicated by their temperature.

The battery is available in 51 or 57 plates for 110 or 120 amp. hr. rating. Plate separators are made of Fiberglas. The housing is hard rubber.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5183

EQUIPPED FOR SIZES FROM 3/8" I.D. TO 38" O.D.

If you write maker identify as IEN - 5184

KOHLER ENGINES

4-Cycle
Air-Cooled

Power for garden tractors, mowers, pumps, sprayers, snow removal equipment, elevators and hoists, portable saws, concrete mixers, compressors, grinders, industrial and lift trucks, and a wide range of tools and equipment for industry construction, farm and home.

Engineered and built to the quality standards that have won acceptance for Kohler Electric Plants the world over.

Write for information on distributor's sales franchise.

Kohler Co., Kohler, Wisconsin, Established 1873

KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS
AIR-COOLED ENGINES • PRECISION CONTROLS

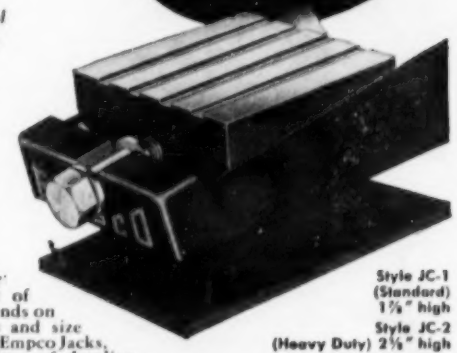
If you write maker identify as IEN - 5185

QUICK, ACCURATE MACHINE LEVELING

WITH VIBRATION ABSORBING MOUNTING PADS

- *Provides Accurate Adjustment*
- *Reduces Vibration and Noise*
- *Lower and Sturdier*
- *Self-Aligning*
- *Two-Way Control*
- *Smooth Slipways*

Empco JACK



Empco Jacks enable you to meet hurry-up demands for relocation of machinery by giving you the fastest, easiest, most accurate machine leveling ever known: you simply raise or tilt machine sufficiently to allow the Empco Jacks to be slipped under base. The number of jacks required depends on weight of machine and size of base. Once set on Empco Jacks, the entire operation of leveling and maintaining equipment level is quickly done. By applying a wrench to the "hex" head of adjusting screw, an adjustment is obtained either up or down until your level indicator reads "zero." Write for specifications and prices today.

Style JC-1 (Standard) 1⅞" high
Style JC-2 (Heavy Duty) 2½" high

EMPCO PRODUCTS

THE ENTERPRISE MACHINE PARTS CORPORATION
2737 JEROME AVENUE • DETROIT 12, MICHIGAN

If you write maker identify as IEN - 5186

JOHNSON wide-rehandling clamshell

EASY-CLOSING big-diameter sheaves, with sealed-in needle bearings, reduce friction losses, deliver full power to cutting lips. Light weight, sturdy bucket assures big payload performance in loose materials.

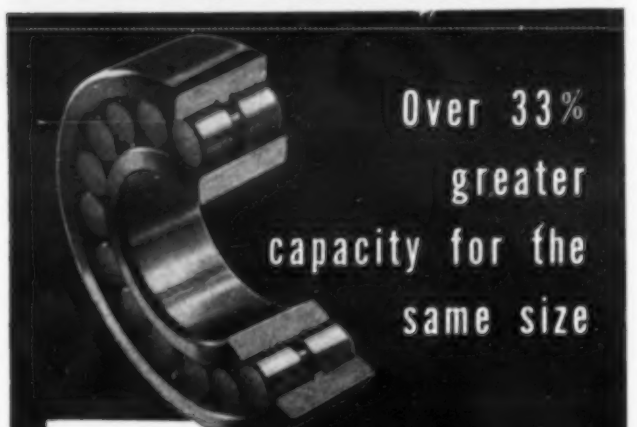
ALL-WELDED smooth, fast cleaning. Hard manganese cutting edge welded to lips toughens with use. 10 Wide Rehandling sizes: ⅜ - ½ - ¾ - 1 - 1¼ - 1½ - 1¾ - 2 - 2½ and 3 cu. yds.

Other Johnson types: General-Purpose and Heavy-Duty Digging.

MAIL TODAY

to: C. S. JOHNSON Co. CHAMPAIGN, ILLINOIS (Koehring Subsidiary)
Send complete facts on .....-cu. yd. Wide-Rehandling Clamshell Bucket.
NAME _____
COMPANY _____
STREET _____
CITY, STATE _____ 1849 IEN

If you write maker identify as **IEN - 5187**



Over 33% greater capacity for the same size

McGILL GUIDEROL® bearings

Guiderol CT Series Bearings have over 33% greater load carrying capacity than the average of the four highest rated interchangeable roller bearings. The guided roller method eliminates capacity wasting cages and prevents roller skewing in critical applications demanding capacity speed, rigidity and close operating tolerances.

Send for McGill Catalog No. 52

McGILL® precision bearings

McGILL MANUFACTURING CO., INC. 100 N. Lafayette St. Valparaiso • Indiana

If you write maker identify as **IEN - 5188**

There is a difference

... IN CARBIDE TIPPED SAWS!

All carbide tipped saws are NOT alike. But MEYCO circular saws are in a class by themselves because the blade and tooth design have been engineered SPECIFICALLY for carbide teeth.

The W. F. Meyers Company has been making precision tools since 1888 and their experience in the field of diamond tooth saws and carbide cutting tools is extensive. This engineering know-how is what has made MEYCO carbide tipped circular tools accepted throughout American industry.

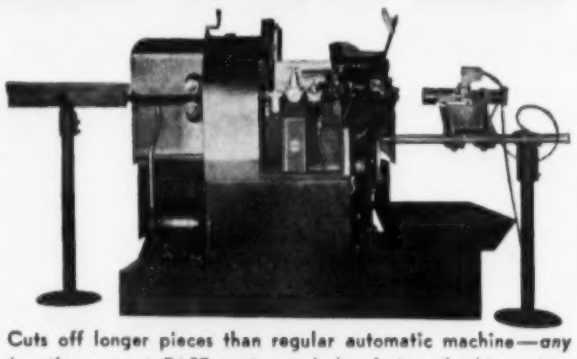
Tungsten carbide's high resistance to abrasion makes it especially adaptable to cutting materials that rapidly wear out the best steel tools. Carbide produces smoother, finer cuts of wood and soils through plastics and other synthetic materials that offer a high resistance to cutting by steel.

And when the saw is properly engineered for tungsten carbide it will run longer between grinds, give you more regrinds—you have a work saving, money saving tool that will increase production many fold. Write for descriptive catalog and price list No. 18.

W. F. MEYERS CO., INC., BEDFORD, INDIANA

If you write maker identify as **IEN - 5189**

MODERN CUTTING-OFF MACHINE



Cuts off longer pieces than regular automatic machine—*any length you want.* FAST cutting and chamfering of tubing, pipe, shafting. Check the following figures:

½" Tubing Cuts and Chamfers both outside edges of ½" .030 wall tubing, 5" lengths, every 2.5 seconds.

1¼" Cold Rolled Cuts and Chamfers both ends, 20" long, at rate of 1 every 20 seconds.

1" Tubing Cuts and Chamfers both outside edges, pieces 3" long. One every 3 seconds.

4" THREADED STUDS

These popular time saving machines are now available in 4 sizes, handling work up to 6¾" O.D.

Cut and chamfered at one time — in 8 Sec. — from 10 ft. length of stock already threaded (¾" U. S. Standard). Clean cut. Clean chamfer. Nuts start easily, with no extra finishing required.

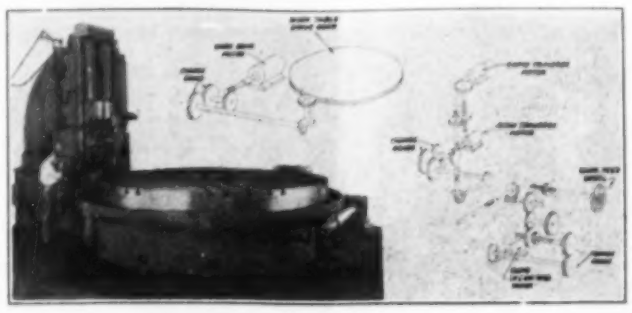
Write for Catalog

MODERN MACHINE TOOL CO.
JACKSON MICHIGAN

If you write maker identify as **IEN - 5190**

GEAR CUTTING . . Shaving machine for diameters to 15 ft., 48 in. face

Source: MICHIGAN TOOL CO.
7169-73 E. McNichols Road, Detroit 12, Mich.



Complete specifications upon request

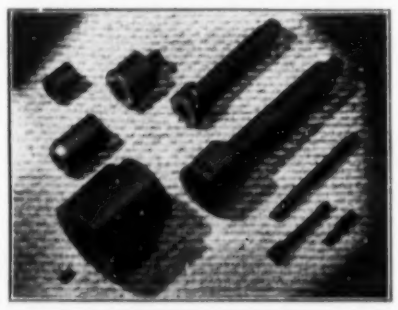
Spur, helical or herringbone gears, internal or external, can be finished on the new V-Series shaving machine. Four machines take work to 48, 72, 120 and 180 in. in diameter. Dual cutting heads are employed on all but the smallest machine. Each head is independently adjustable for angle and the top head can be set at various heights. The cutters are shaped similar to gears but the teeth are serrated to provide a series of cutting edges. Cutter and work rotate in mesh with the work driving.

The axes on which the gear and the cutter are mounted are out of parallel with each other. The result is a shearing action as the gear revolves.

If you write maker identify as **IEN - 5191**

WRENCH . . Drive sockets, adapters, extensions to apply with impact wrenches

Source: CORNWELL QUALITY TOOLS CO.
1020 Cleveland Ave., Mogadore, Ohio



Ask for Catalog 1-53

Alloy steel, hot broached and heat treated, is employed in the manufacture of this new line of square and hexagonal sockets, extensions and adapters to stand up under the high duty imposed by power impact tools. The sockets are available in sizes from $\frac{3}{16}$ to 3½ in. with drive size from ¼ to 1½ inches. Extensions are made from ¼ to 1½ in. drive size in a range of lengths.

Adapters permit interchanging with other drive sizes of impact power tools. The line includes sockets with case hardened hexagon heads to drive self-tapping sheet metal screws in sizes from $\frac{3}{16}$ to $\frac{9}{16}$ inch.

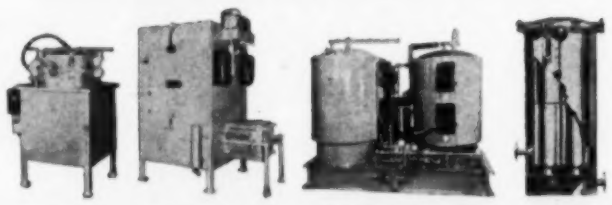
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . *See Page 50*

Additional product information in New Literature — see page 82

If you write maker identify as **IEN - 5192**

HILCO LUBRICATING AND INDUSTRIAL OIL MAINTENANCE EQUIPMENT

Saves You **MONEY, OIL and MACHINERY**



OIL RECLAIMER — PURIFIER, RE-REFINER — HIGH CAPACITY RECLAIMER — FILTER

A COMPLETE LINE OF EQUIPMENT FOR RECLAIMING, FILTERING, PURIFYING AND RE-REFINING OIL.

★ Hilco units are available for continuous or batch operation. You can keep your lubricating and industrial oils clean and recover large quantities of oil at low cost.

Whenever Oil is used it becomes contaminated—must be discarded or conditioned for further use.

There is a HILCO to do This Job for You

Cleans Oil, Reduces Down Time, Increases Production!

★ Tell Us About Equipment You Are Operating and We Will Forward FREE Literature and Recommendations.

OIL PURIFIER DIVISION

THE HILLIARD CORPORATION
35 W. 4th ST. • ELMIRA, N. Y.
IN CANADA — Upton - Bradeen - James, Ltd.
990 Bay St., Toronto, 3464 Park Ave., Montreal

If you write maker identify as **IEN - 5193**

Now! The VELOCITY-POWER DRIVER

with permanently attached Spall-Shield ...faster...safer STUD SETTING

Saves time, money, labor in electrical, heating, plumbing, air conditioning installations—both construction and maintenance. Sets studs in steel or concrete in seconds—just load, position, fire—job done. Integral cartridge eliminates matching and fitting, and interchangeable barrels permit driving of either ¼ or ⅜-in. studs with same firing unit. Solid head, internal or external threaded type studs available. Permanent spall-shield aids safety. Spring loaded safety arm and center-fire cartridges avoid accidental discharge, and assure right load for the job. Write for details.

◄ For close-to-the-wall jobs, section of spall-shield can be lifted, and turned out of the way.

Still available—model with separate spall-shield. ►

VELOCITY POWER TOOL COMPANY
201 North Braddock Avenue, Pittsburgh 8, Pa.

If you write maker identify as **IEN - 5194**

E-Z CODES *the Different wire markers*

with **SPEED TABS**

Easier, Faster, Safer to Apply
Prevent Marker Spoilage

Any E-Z Code pressure-sensitive wire marker can be quickly removed from any part of the card, yet unused markers are always fully protected whether card is kept in pocket or constantly handled. Fingers never touch the adhesive, never lessen its ability to stick Only E-Z Codes, with exclusive Speed Tabs, provide this easier, faster application, prevent marker spoilage.

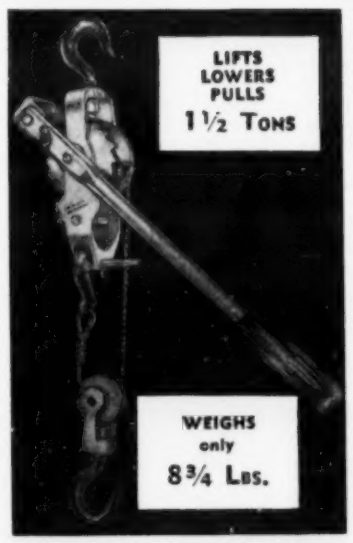
Use E-Z Codes to mark wires, leads, circuits, relays, parts, etc., to increase production . . . guarantee accuracy . . . effect economy . . . assure permanent coding.

SEND FOR FREE SAMPLE AND DETAILS TODAY! WRITE DEPT. IEN-5

WESTLINE *Products • Division of Western Lithograph Co.*
600 East Second Street, Los Angeles 54, California

If you write maker identify as **IEN - 5195**

REDUCE MAINTENANCE COSTS ON THESE JOBS



★ Moving Machinery
★ Conveyor Belt Tightening
★ Hoisting Motors, Gears, Shafts
★ Changing Batteries
★ Opening Box Car Doors

The rugged little 1½ ton capacity LUG-ALL Winch-Hoist reduces your maintenance costs in these specific ways.

YOU DO THE JOB WITH FEWER MEN

Weighing less than 10 pounds, the LUG-ALL enables one man to do jobs formerly requiring two men. LUG-ALL outpulls five (5) men with a rope block rig.

YOU DO THE WORK FASTER

Getting to the job and setting-up is faster, easier. The built-in pulley block with triple-hook system works in any direction. There's always a BETTER way to do the job with your LUG-ALL!

USERS "WELL SATISFIED"

LUG-ALL Winch-Hoist users like this tool. C. T. DuBruell of Akron Brass Mfg. Co., Wooster, Ohio, says, "Of all the labor saving devices I have purchased in past 18 years, our two LUG-ALLS have drawn the greatest praise from men in the shop".

LUG-ALL ADVANTAGES

Bearings are oiled-for-life. Alloy frame withstands 5 ton load. Flexible aircraft cable. Stainless steel springs. Safety handle prevents overload. Cable stores out of way on drum. Interlocking pawls *cannot* slip.

COMPLETE WITH 10 FT. OF CABLE ONLY

$35.25 FOB Factory

GUARANTEE

Every LUG-ALL guaranteed one year against defects in workmanship and materials.

ORDER TODAY—Or request fact-packed Bulletin 2116. Just off the press, it's yours for the asking.

THE LUG-ALL COMPANY
WYNNEWOOD 3, PENNA.

If you write maker identify as IEN-5196

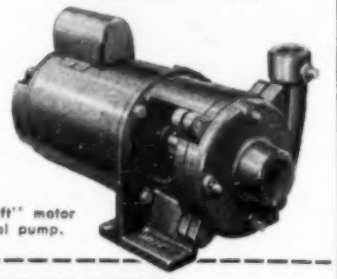
New Myers "Centri-Thrift" General Purpose Pump

An addition to present line of centrifugal pumps

Special low cost, centrifugal pump for bottle washers, booster service, air conditioners, boiler feed service, etc. Myers quality features: Removable, replaceable bronze wearing ring; separate stainless steel pump shaft extended through open bracket for quick inspection and accessability. Bronze impeller is locked to shaft.

Myers "Centri-Thrift" V-belt driven centrifugal pump.

Capacity to 50 gallons per minute. Heads up to 92 feet. Easily handles 180° water. Suction opening 1¼" pipe; discharge opening 1" pipe and can be rotated in any of four positions.



Myers "Centri-Thrift" motor mounted centrifugal pump.

IMMEDIATE DELIVERY

Write for complete information and prices.

THE F. E. MYERS & BRO. CO.
238 Fourth St., Ashland, Ohio

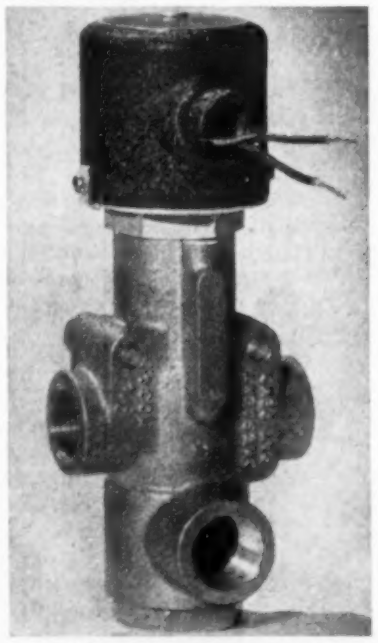
If you write maker identify as IEN-5197

Crescent Valve Performance

HIGH CYCLING PLUS TIGHT SEATS

AMAZING CONTROL

Continuous duty rating of 600 cycles per minute and bubble tight closure throughout the pressure range MEANS THIS TO YOU: No lag—you can squeeze and release spot welds, for example, with accuracy regardless of cycling rate. You can stop worrying about coil burn-outs. Besides, you get full flow through the valves, millions of cycles without maintenance, the lowest possible power consumption (relieving overloaded electrical facilities), an unlimited choice of voltages—AC or DC—by simply changing coils. Write for NEW catalog 3C-1 describing both 3-way and 4-way pilot operated Crescent Valves.



¼" to ¾" • 3-Way • Pressures to 500 psi

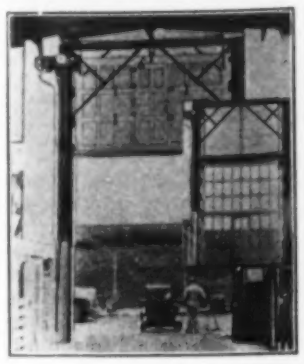
BARKSDALE VALVES

1566 E. SLAUSON AVE., LOS ANGELES 11, CALIF.

If you write maker identify as IEN-5199

DOOR . . Vertical lift design, hand or power, specified opening

Source: CLARK DOOR CO.
519 Hunterdon St., Newark 8, N. J.



Saves floor space

Type VS is new vertical sliding design in the company's line of industrial doors. It is available in 1, 2 or 3 panels or sections to slide in tracks at the two sides of the doorway. It can be specified for hand operation by means of chain hoists or with cable suspension, attached to counterbalancing weights, for motor operation with local or remote controls.

A safety stop, at the bottom of the travel, causes instant reversal if the door strikes an object on its way down. Auxiliary pedestrian doors can be installed and equipped with a switch that prevents the main door from being operated if the pass door is open for any reason.

If you write maker identify as IEN-5200

CLEANING . . Waterless hand cream removes grease, paint, tar, inks

Source: MAGNUS CHEMICAL CO.
252 South Ave., Dept. IE, Garwood, N. J.

Spread and wipe off

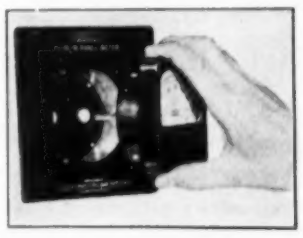
New material is a stiff white gel containing lanolin. It can be rubbed over soiled hands and then wiped off with a towel or, if water is available, it can be rinsed away. In either case it leaves the hands soft and without tacky feeling. The material contains no alkali. It is neutral in its reaction and will not irritate or dry out the skin. It has no odor of solvent or ammonia.

Packaging is in 32-lb. cans listing at 32.8 cents per pound. It is packaged also in cases of 24 eight oz. jars listing at $5.20 per case. Minimum order is two cases in case lots.

If you write maker identify as IEN-5201

METER . . Electric plug-in units for quick interchange in a panel

Source: COLE INSTRUMENT CO.
1318-22 S. Grand Ave., Los Angeles 15, Calif.



Push to place

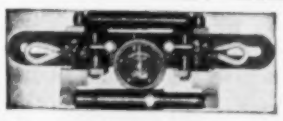
Round and rectangular designs in 3 and 4-in. sizes are included in the company's new line of standard plug-in electric meters for panel assembly. No connections need to be specially made or broken for installation or removal of a faulty meter. Change-over can be made in a few seconds by any individual. The new design is particularly suited for field and laboratory test set-ups. The line includes a set of receptacles into which the meters plug.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-5202

DILLON DYNAMOMETERS can solve your tension or stress problems

The perfect instrument for indicating tension or stress in cable, rope, castings, assemblies, etc.—in field or laboratory. Easy to use in close quarters—measures 8¼" x 6¼" x 3", weighs only 8 lbs. 4 oz. Not injured by accidental overload. Has safety glass cover and maximum hand. 500 to 100,000 lb. capacities. Low cost. Immediate shipment.



By using a Dillon Dynamometer in this special draw-bar arrangement, the Ruth Company, Denver, Colorado, manufacturers of mining locomotives, has proved a money-saving point. They found that locomotive horsepower—not weight—is the all-important factor in achieving economical mine haulage. Result: thousands of dollars saved in several mines!

Write today for illustrated bulletin

W. C. Dillon & Co., Inc.

14620K KESWICK STREET
VAN NUYS (Suburb of Los Angeles)
CALIFORNIA

If you write maker identify as IEN-5203

QUICK ACTION ON ANY ORDER

Ex-Cell-O Carries 300,000 Drill Jig Bushings in Stock

In addition to accuracy and long life, you get fast delivery on any order of any size when you specify Ex-Cell-O Drill Jig Bushings. That is because Ex-Cell-O stocks more than 300,000 bushings—one of the largest and most varied supplies in the world. For list of standard styles and sizes quickly available, write today for your free copy of Ex-Cell-O Bulletin 3537I.

EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN

XLO

53-23

If you write maker identify as IEN-5204

Fans.. Blowers FOR ALL INDUSTRY

"Standard Units or Custom Design"

DOUBLE SWIVEL AEROSPOT

For column or wall mounting. Saves valuable floor space. Direction of blast adjustable: 360° around Spindle Axis, 90° around Motor Support Axis. Sizes, 20" to 36".

Fans and blowers in a wide range of standard size units are available for specific air moving and ventilating requirements. Special custom designed equipment can also be furnished. Our staff of engineers is at your disposal for competent advice on any ventilating problem. Correspondence invited, without obligation.

SEND FOR CATALOG TODAY!

6 Blade DYNAFLOW Unit

Also available in two and four blade types. Sizes, 16" to 36".

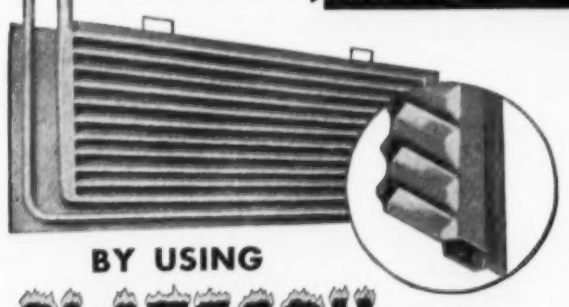
DUCTYPE BLOWER

Direct driven, single or tandem fan units. Also available with belt drive. Sizes, 16" to 36".

SOUTH BEND AIR PRODUCTS, Inc. 322 E. COLFAX AVE. SOUTH BEND, IND.

If you write maker identify as IEN-5205

YOU SAVE STEEL MANHOURS MONEY



BY USING PLATECOIL FOR TANK HEATING AND COOLING

YOU SAVE CRITICAL STEEL because "Platecoils" require less than ½ the steel used in pipe coils of the same surface area. A 22" x 119" Platecoil weighs 95 lbs. against 239 lbs. for an equivalent 2" pipe coil. 144 lbs. steel saved. YOU SAVE CRITICAL MANHOURS because "Platecoils" are easily installed, cleaned or replaced in minutes . . . No down-time . . . No tank dumping. Many manhours saved.
YOU SAVE MONEY because "Platecoils" cost up to 50% less in initial cost and require less maintenance. Investigate "Platecoils" today.

Send for complete technical manual and descriptive Bulletin No. P56

PLATECOIL
Division
KOLD-HOLD MFG. CO.
LANSING 4, MICHIGAN

If you write maker identify as IEN - 5206

"BIG SAVINGS OF LABOR AND MATERIAL"

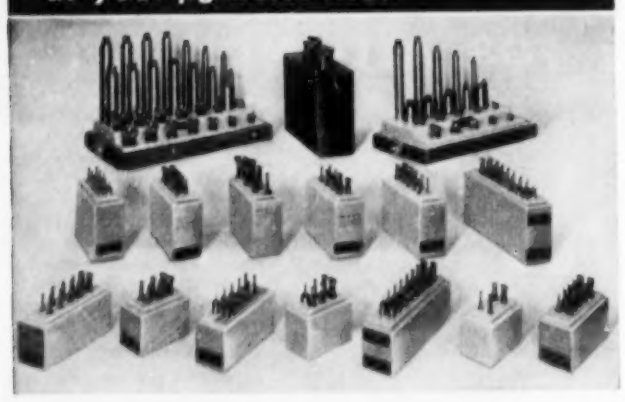
with portable Greenlee Hydraulic Conduit Bender

Quickly produce your own conduit bends *right on the job*. With a GREENLEE Bender *one man* in but a few minutes makes smooth, *accurate* bends in pipe up to 5", rigid and thin-wall conduit. Many owners report time and labor savings from 50% to 90% . . . and cost of many manufactured bends and fittings completely eliminated. Get facts now on this tool that often pays for itself on the first job.

FREE BENDER BOOKLET with complete data on GREENLEE Benders for pipe, conduit, tubing. Write today, Greenlee Tool Co., 1865 Herbert Ave., Rockford, Illinois.

If you write maker identify as IEN - 5207

These Tool Sets . . . as important as your jig borer itself



One of the handiest and most efficient things you could own. From 16 sets — each containing 4 to 16 tools — you can choose the one that embraces just the tool assortment that will best meet your particular requirements—in any required sizes from 1/16" dia. to 1 1/2", and larger. Choice of several overall lengths. In H.S. steel (Cat. Sup. 1 to 1139-6), carbide-tipped (Cat. Sup. 1 to 398-6), and solid carbide for extreme deep hole boring (Cat. 948).

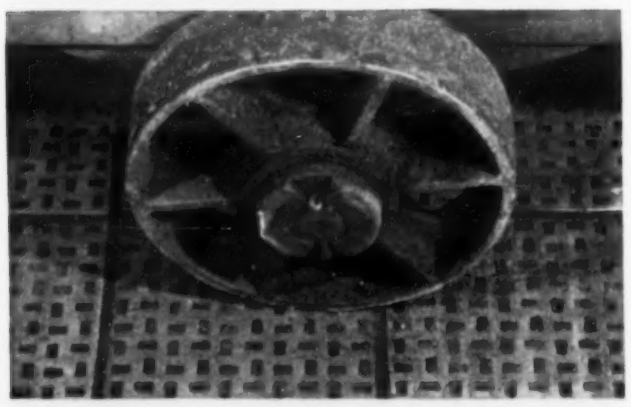
BOKUM TOOL CO.

SINGLE POINT BORING TOOLS—INTERNAL THREADING, BOTTOMING AND FACING TOOLS—CARBIDE TIPPED TOOLS

DEPT. N • 14775 WILDEMERE AVE. • DETROIT 21, MICH.

If you write maker identify as IEN - 5208

Acme Steel Floor Plate Makes Floors Last Longer



Here's the economical, long-lasting, commercially proven reinforcement for concrete floor surfaces. Each Acme Steel Floor Plate protects one square foot of floor area, anchored to concrete by 100 barbed prongs. Plate cannot work loose, weave or rattle. No cutting or waste in installation. Compact, easy to handle. Provides rugged protection, longer floor life, safe floor surface for aisles, loading docks, ramps, stock rooms, warehouses. For full details, write Dept. IEN-53-F. ACME STEEL COMPANY, 2840 Archer Avenue, Chicago 8, Illinois.

ACME STEEL

If you write maker identify as IEN - 5209

HONING . . Wheel type machine finishes flat work to 20 in. diameter

Source: MICROMATIC HONE CORP.
8102 Schoolcraft Ave., Detroit 4, Mich.

Work fixture on spindle

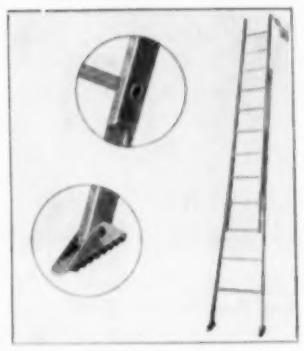
Model 844 is a new honing machine in the company's Microflat line for precision finishing of optically flat surfaces. The assembly provides for four speeds in the head, simultaneous changing of spindle and wheel speeds, motorized wheel dresser mounted on the machine, control of the head oscillation and pneumatic lift for the spindle. An adjustable stop on the quill housing permits repetition of height setting and adjustment for wheel wear.

The head can be moved without disturbing its previously set oscillating stroke to permit application of the permanently mounted motorized dresser which swings over the wheel. Spindle rotation is controlled by a clutch providing for forward, neutral and reverse action. Spindle speed can be changed, independently of the wheel speed, by insertion in the head of one of four worm gears.

If you write maker identify as IEN - 5210

LADDER . . Made of aluminum, single and extension units to 40 feet

Source: ORO MFG. CO.
18-22 N. Wacker Drive, Chicago 6, Ill.



Prices on request

Oro-Lite trade names the company's new extension ladder. It is made of 61 ST aluminum with 2 1/2 by 3/4 by 0.065 in. rectangular side rails, 1 in. diameter rungs, ribbed for strength and safe footing. Two sets of slide guides are included in the assembly. Bottom brackets are heavy extrusions. Safety shoes are optional.

The line includes extension ladders from 16 to 40 ft., window cleaner ladders in 6-ft. sections, straight ladders from 6 to 20 ft., estimators' ladders in 4-ft. sections, orchard ladders in lengths from 16 to 24 feet.

Identify as IEN - 5211

You will know a little more about wire rope, you will like the little simplified illustrations showing the steps in its manufacture and you will become better acquainted with friendly E. H. Edwards Company, if you ask for and read a copy of its new 12-page booklet, "Information on . . .". Two little cartoon men show the action step by step.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5212

A PAID NEWS ADVERTISEMENT BY JABSCO PUMP CO.

JABSCO SELF-PRIMING PUMP AND CLUTCH UNITS

Built-on Clutch Fingertip Controlled

Jabsco's multi-purpose Pump and Clutch Units are available for immediate delivery. Model 2300 (1" pipe size), and Model 2500 (1 1/4" pipe size) are small, compact units having the easy-operating clutch built into the pump, eliminating the need for a separate clutch base. Friction cone type clutch can be operated by handle, lever or cable. Units are equipped with New Departure sealed and pre-lubricated ball bearings in both pump and clutch. These compact units may be mounted at any angle desired, and driven by an A or B Section V-belt. Jabsco Pumps are completely self-priming, with dry suction lifts approaching 20'; when primed, as high as 25', and no foot valve is required. The exclusive Jabsco "camflexed" Neoprene Impeller is the only moving part in the pumps. Impeller is easily replaced without disconnecting piping or drive belt. Jabscos are economical, low in first cost, and trouble and maintenance free, even under continuous rugged operation. Liquids are efficiently pumped at low or high speed, in either direction. Model 2300 delivers 1680 GPH and Model 2500 delivers 3300 GPH at 10' head, 1750 RPM. For complete information, write **Jabsco Pump Company**, 2031 North Lincoln Street, Burbank, California.

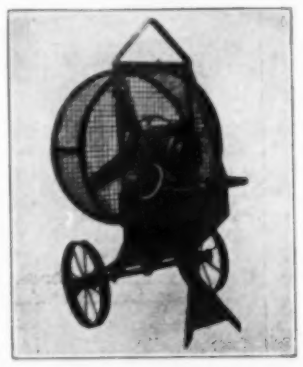
If you write maker identify as IEN - 5213

BE READY FOR WARM WEATHER

IMPROVE WORKING CONDITIONS

with a

ROBINSON "SULKEY" TYPE COOLING FAN



Put a Robinson "sulkey" type cooling fan right on the job. Roll it into position on its truck type wheels, tilt it to direct the air right where you want it.

Ask for Bulletin No. 8000. It contains capacity tables for man cooling fans in a wide range of sizes and illustrations of other popular mountings.

Place your cooling problems in our hands.

ROBINSON VENTILATING COMPANY

Manufacturers of Fans and Ventilating Machinery for over fifty years.

1948 Railroad Street

ZELIENOPLE PENNSYLVANIA

If you write maker identify as IEN - 5214

"Lightnin" Mixers

Clean, degrease small parts IN 5 MINUTES!

Twice as fast as hand dipping. Get high-speed cleaning and degreasing, with a LIGHTNIN Mixer in any tank or container.

Mixer makes solvent flow rapidly over and around small parts, castings, etc. Cleans intricate parts thoroughly in 5 minutes. Easily installed in your tank—we show you how. Fully guaranteed. *For details, send for Catalog B-103.*

Mix fluids in a few seconds in any tank or container, with a LIGHTNIN Portable Mixer. Cheaper, faster than hand stirring. Mix paint, glaze, chemicals . . . dissolve powders, crystals . . . blend food products, flavors, syrups—do hundreds of mixing jobs quickly and thoroughly. Fully guaranteed. Thousands in use. Thirty models 1/8 to 3 HP. *Send for Catalog B-75.*

FOR BIG MIXING JOBS

LIGHTNIN turbine and paddle mixers for open or closed tanks. Sizes 1 to 500 HP. Send for Catalog B-102.

LIGHTNIN side entering propeller mixers. Sizes 1 to 25 HP. Send for Catalog B-104.

MIXING EQUIPMENT CO., Inc.

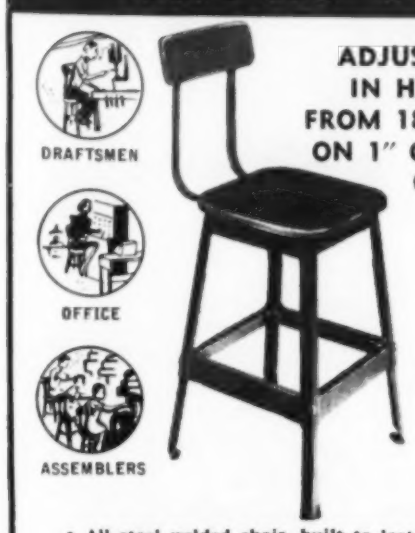
124 Mt. Read Blvd., Rochester 11, N. Y.

In Canada: William & J. G. Greey, Ltd., Toronto 1, Ont.

MIXCO fluid mixing specialists

If you write maker identify as IEN - 5216

THE CHAIR THAT REALLY "GROWS UP"



DRAFTSMEN

OFFICE

ASSEMBLERS

ADJUSTABLE IN HEIGHT FROM 18" TO 30" ON 1" CENTERS
for everybodys size

WRITE FOR CATALOG AND PRICE LIST

- All steel welded chair, built to last a lifetime.
- Adjustable back, removable when desired for use as a stool.
- Varnished wood or masonite seat for comfort.
- Chairs can also be had with leatherette seat and back (COLORS: Red, Green, Blue) and/or ball bearing wheels.
- Olive green baked enamel finish.

SIMPLEX METAL PRODUCTS
341 W. 38th St. N.Y.C. tel: BRyant 9-8771

If you write maker identify as IEN - 5217

SOLID ... as a rod
FLEXIBLE ... as a wire rope

TRU-LAY Push-Pulls snake around obstructions. Provide positive remote action for operating clutches, gates, slides, etc. Operate while flexing. Weatherproof, dustproof types. Capacities up to 1000 pounds input.

Write our Detroit office today for DH-287

TRU-LAY PUSH-PULL CONTROLS

ACCO
AUTOMOTIVE AND AIRCRAFT DIVISION
AMERICAN CHAIN & CABLE
601 Stephenson Bldg., Detroit 2
2475 Porter St., Los Angeles 21 • Bridgeport, Conn.

If you write maker identify as IEN - 5219

PLASTICS . . Laminated sheets, fiberglas reinforced, flat or molded

Source: STRICK CO.
Godfrey & Whitaker Aves., Philadelphia 24, Pa.

One example

Illustrated is a typical molded example of the company's reinforced polyester laminated sheets that are now available in specified sizes, degree of flexibility and shape. Sizes range to 4½ by 8½ feet. Two grades test to 20,000 and to 40,000 lb. per square inch. Both have excellent dimensional stability and resistance to attack by a variety of chemicals. Dielectric strength combines with a low power factor to make the finished sheets suitable for use in electrical and electronic equipment.

If you write maker identify as IEN - 5220

DRILLING . . Portable electric tool in six standard speeds, rates ¼ in.

Source: STANLEY ELECTRIC TOOLS
478-82 Myrtle St., New Britain, Conn.

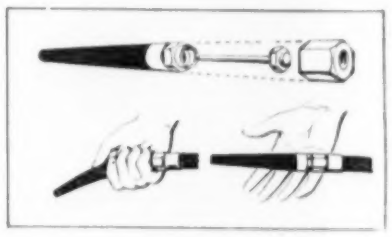
Mighty Midget

Universal motor, for specified operation on 110 or 220 volts, drives a ball bearing geared head in this new portable drill. The head can be supplied in any of six gear ratios for 600 to 5,000 rpm. at the spindle. Assembly is in a die cast aluminum housing. Weight is a little over 3 lb. and length is to 8½ inches. A three-jaw geared chuck is threaded on the spindle. Control centers at a switch in the pistol grip handle. The drill drives a ½-in. bit in wood, ¼ in. in steel.

If you write maker identify as IEN - 5221

VALVE . . Compressed air nozzle is opened by deflecting rubber body

Source: LONN MFG. CO.
133 E. New York St., Indianapolis 6, Ind.



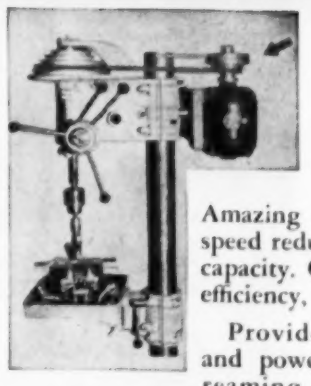
List is $2.50

Model PRO is a new design in the company's line of Air Saver nozzles in which an extension of the stem extends forward inside the rubber portion. When the rubber is deflected the valve is moved from its seat so air can flow through the outlet. Three sizes are equipped with couplings for ¼, ⅜ and ½-in. hose connection. Extreme abuse has no effect on operation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5222

New "PULL-GEAR" SPEED-REDUCING PULLEY Increases Drill Press Capacity



Amazing new internally geared speed reducer doubles drill press capacity. Greater power, greater efficiency, greater productivity.

Provides the correct speed and power for larger drilling, reaming, tapping and boring on light presses. Easily installed in five minutes. Adaptable to all type machines. Spindle speed range approximately 45 to 2000 RPM. Write for literature.

Made in 3 Motor Shaft Sizes ½" • ⅝" • ¾"

Some Territories Open to Jobbers

THE PULL-GEAR CO.
4118 E. 8-Mile Road Detroit 34, Mich.

WRITE FOR LITERATURE

If you write maker identify as IEN - 5223

Get fast, positive line boring accuracy for 2½" to 17" dia. with...

DAVIS SINGLE CUTTER MICROMETER ADJUSTABLE BLOCKS

HERE'S the way to boost efficiency on general purpose jobs that demand rigidity and a wide range of cutter adjustments.

In addition to regular line boring with either standard or special bars, Davis tools with the exclusive adjustable feature are easily adapted to counterboring, undercutting, grooving, facing or chamfering. Block and cutter adjust as a unit to assure full cutter support at all settings.

Made of high grade tool steel, hardened and ground, the blocks can be furnished with High Speed Steel, Cobalt, Stellite, Tungsten Carbide tipped or Tantalum Carbide tipped cutters.

For details, write for bulletin No. 602.

If Davis can't bore it, it can't be done!

DAVIS BORING TOOL DIVISION
GIDDINGS & LEWIS MACHINE TOOL CO., Fond du Lac, Wis.

Builders of plain and micrometer adjustable block type boring tools; line boring bars; special boring tools; car wheel boring tools; planer, vertical boring and turning mill tools; Quick Change arbors and sleeves.

See us at the Canadian International Trade Fair—Toronto, June 1 to 12.

If you write maker identify as IEN - 5224

T & B Grounding Sheath Connectors ...VIA GRAYBAR

Send today for free Sample and Bulletin

See for yourself how easy it is to ground and terminate shielded or co-axial conductors. Thomas & Betts manufactures — and Graybar distributes — these sleeve-type connectors for conductors from .058" to .297" in diameter. Ideal for all AF and RF applications.

Simply slip hard metal inner sleeve under conductor braid. Add ground lead and slip on larger soft metal sleeve. Compress with Shure-Stake hand tool and the job is done . . . no soldering . . . no damage to insulation. Also available with integral terminal tongues.

Call your near-by Graybar Representative for complete information on all Thomas & Betts electrical fittings — or for that matter, anything electrical. *Graybar Electric Co., Inc. Executive Office: Graybar Building, 420 Lexington Avenue, New York 17, N. Y.* 336-125

Call Graybar *first* for . . . Everything Electrical GraybaR

If you write maker identify as IEN - 5225

famco Model "612" METAL CUT-OFF BAND SAW

Offers New Design Features

● Truly a finished machine tool, the Famco "612" Metal Cut-Off Band Saw cuts all shapes, all types of metals. It's ruggedly built of semi-steel castings and alloy steel. Cast aluminum guards provide extra safety. Capacities up to 6" round and 6" x 12" rectangular stock. Made in the typical Famco tradition of "the highest quality machine for the money."

A Few Famous Famco Features

Open construction for easy access; microset stock stop for quick setting, precision sawing; ⅝" x .032 blade; coolant system added in a jiffy; improved design means easier blade changes; Timken roller bearing equipped transmission; quick setting guide arms; blade guard telescopes automatically; 50, 100, 175 and 300 FPM cutting speeds; vise jaws adjust to 45° angle.

Write for Free Catalog

Complete information, including models, specifications and new design features, is available in a new illustrated catalog.

FAMCO MACHINE CO., 3110 Sheridan Rd., Kenosha, Wis.

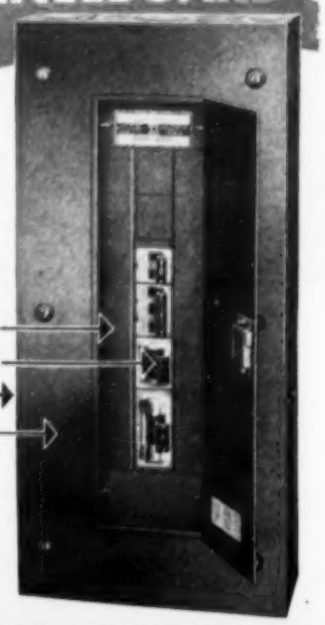
famco (COST CUTTING) machines

ARBOR PRESSES • DRILL PRESSES • AIR PRESSES • BAND SAWS
POWER PRESSES • FOOT PRESSES • SQUARING SHEARS

If you write maker identify as **IEN - 5226**

SQUARE D's

MHP DISTRIBUTION PANELBOARD



So easy to order and stock. "Off-the-shelf" delivery of packaged components!

INTERIOR "PLUG-IN" BREAKERS BOX TRIM

for 240 Volt, 3 Phase, 3 or 4 wire power systems.

Write Square D Company, 6060 Rivard St., Detroit 11, Mich., for descriptive bulletin

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

If you write maker identify as **IEN - 5227**

NEW! CHICAGO HARDWARE FOUNDRY "313" TABLE!

Lifetime CAST IRON CONSTRUCTION

. . . Colorful Porcelain Enamel Finishes

You'll like the colorful, attractive appearance of this new "CHF" table . . . and the fact it's built to give a life-time of service! Cast iron channel legs and center stringer give necessary strength without bulky bases. Easier, quicker to clean around with more chair and knee room. Available in sizes to seat 4 to 20 people. Your choice of lifetime porcelain enamel colors and standard tops. Portable — or can be secured to floor for use with permanently attached counter stools.

Write for Complete Information and Prices Today!

THE CHICAGO HARDWARE FOUNDRY CO.
"Dependable Since 1897"
3453 Commonwealth Ave. • North Chicago, Ill.

If you write maker identify as **IEN - 5228**

ZIP OFF

SCALE
RUST
PAINT
with

AURAND CLEANING TOOLS

AURAND rotary chipping action quickly, easily, *thoroughly* removes scale, paint, rust and other accumulation from any hard surface. Renewable cutter heads and fool-proof cutting depth adjustment allow the unskilled operator to produce perfectly clean surfaces. Available in electric or pneumatic models. Write today for further information on cleaning your iron, steel, brick, concrete, and other hard surfaces.

Get the time and money-saving facts

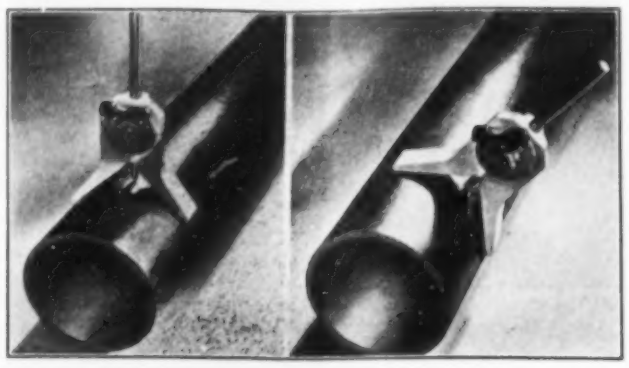
GET THE TIME AND MONEY-SAVING FACTS WRITE TODAY TO DEPT. 649

AURAND MFG. & EQUIP. CO.
2643 Colerain Avenue • CINCINNATI, OHIO

If you write maker identify as **IEN - 5229**

LAYOUT . . Level and protractor to position center punch on circle

Source: CONTOUR MARKER CORP.
1841-45 Compton Blvd., Compton, Calif.



Adjust level to angle, center and mark

A punch mark can be made at any desired angle with vertical by means of this new combination layout tool. It mounts a scale and spirit level with which an angle can be centered. The unit is then applied as shown in the illustration, with the level reading center, and the punch is struck with a hammer to make the desired mark. The cast aluminum protractor body mounts a 1¾-in. dial graduated in 2½-deg. intervals and marked each 10 degrees. The punch is made of ⅜-in. drill rod with a hardened point.

If you write maker identify as **IEN - 5230**

WRENCH . . Open end design, self-adjusting from ¼ to 1¼ inches

Source: FULLER & HELLMANN INC.
253 Fuller Ave., Moro, Oregon

Made in Germany

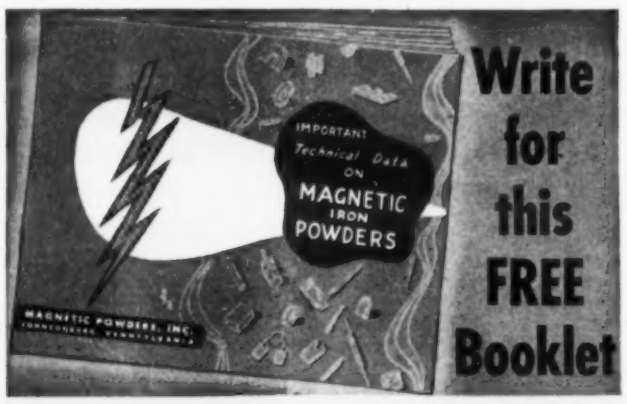
The pivoted head of this new Plattina wrench rotates through a 130-deg. arc on the end of its handle. The knurled jaws open or close, depending on the direction of the movement. The harder the wrench is pulled in tightening direction the tighter it grips. The parts are made of chrome vanadium forgings. A ratchet action permits the jaws to be slipped quickly to a new gripping position in confined locations.

Identify as **IEN - 5231**

Perhaps it would be a good move on your part to ask Atkomatic Valve Company for the information it can supply on water saving in your plant. The company has collected data on typical installations of its solenoid operated valves to tie in with machine operations so water flow will be recirculated or turned on and off as required.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 5232**



Write for this FREE Booklet

CONTAINING IMPORTANT INFORMATION ON

Laboratory Controlled • Quality RAW MATERIALS *for* ELECTRONIC and INDUSTRIAL APPLICATIONS

Visit us at the:
Basic Material Exposition Palace
New York, New York
June 15th-19th • Booth #319

MAGNETIC POWDERS INC.
POST OFFICE BOX 247
JOHNSONBURG, PENNA.

If you write maker identify as **IEN - 5233**

SCRAPE OR SCRUB

WITH THIS ONE HILD MACHINE

Scrape off hard-caked grease and dirt . . . scrub away dangerously slippery oil with this one powerful HILD Floor Machine. With Power-Scraper attachment the HILD Machine saves hours of chipping with a hand-spud. No danger of marring floor surface or of loosening wood blocks. With Shower-feed Brush, the HILD Machine is equally speedy and thorough in scrubbing away slippery oil film . . . easily reaches "danger spots" around, beneath and between machines. Six models with brush spreads from 11 to 19 inches.

Only HILD has the SHOWER-FEED BRUSH

Cleaning solution flows from tank on handle through holes in brush back *between each row of bristles* ...for thorough scrubbing with utmost economy.

Ask for FREE Demonstration

Write for FREE Circular

HILD System — MAINTENANCE EQUIPMENT & SUPPLIES

HILD FLOOR MACHINE COMPANY
Dept. IEN-5 • 740 W. Washington Blvd., Chicago 6, Ill.

If you write maker identify as **IEN - 5234**

WHY NOT WRITE ME

AND TELL ME YOUR BENDING PROBLEMS?

PEDRICK PRODUCTION BENDERS are in use throughout the world. They save time and money bending pipes, tubes, reinforcing bars, angles and many other structural shapes. Why not increase your bending production and reduce your costs with semi-automatic bending? Ideal for job or production work.

Available in 9 power models, starting at $1575.00.

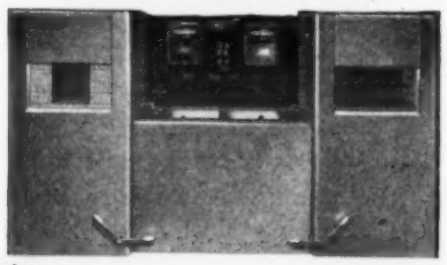
Write for Descriptive Folder.

PEDRICK TOOL AND MACHINE CO.
3640 N. Lawrence St., Dept. 7, Philadelphia 40, Pa., U. S. A.

If you write maker identify as **IEN - 5235**

here it is the single unit

Want a complete heat-treating department? LOW COST...COMPACT DESIGN ...HIGH PRODUCTIVITY



Features include:

1. *Heating Furnace with range of 1000° to 2400° F. automatically controlled (12" wide x 10" high x 18" deep).*
2. *Tempering or Drawing Oven is recirculating type. Work is constantly bathed with evenly distributed high velocity and held to constant temperature by automatic control. Alloy steel lined with perforated shelf, has range of 250° to 1100° F. (21" wide x 10" high x 18" deep).*
3. *Furnace and Oven doors equipped with foot treadles.*
4. *Two Quench Tanks for oil and water. By means of double wall construction, oil tank is entirely surrounded by water for cooling oil, thus producing more uniform quenching.*
5. *Automatic electronic type controls.*
6. *Shipped ready to install by simply connecting gas and electric power line.*

Think of the many advantages and economies of having a complete heat-treating department in your own shop, ready whenever you need it. No waiting! No production tie-ups! No expensive outside services! Think how much money you could save the very first month! It heat-treats, quenches, draws, stress-relieves, normalizes, anneals, with controlled atmospheres. Reasonably priced, too! Complete line of WALTZ standard or special heat-treating furnaces, using all types of fuels are built to suit your requirements.

Write Dept. A for comprehensive illustrated bulletins.

Waltz FURNACE COMPANY
SYMMES STREET • CINCINNATI, OHIO

If you write maker identify as IEN - 5236

For Production Line Applications and General Lifting

Capacities: ¼ to 2 tons

● Plug in on 110 single phase or 220—440 volt power lines. Fast. Safe. Herc-Alloy flexible welded load chain. Lifetime lubrication. COMET hoists save energy... reduce materials handling costs. Anyone can operate.

COMET CATALOG No. 150—18 pages of illustrated information sent on request or ask your CM Distributor.

CHISHOLM-MOORE HOIST CORPORATION
(Division of Columbus McKinnon Chain Corporation)
GENERAL OFFICES AND FACTORIES: TONAWANDA, N. Y.
SALES OFFICES: New York • Chicago • Cleveland
See us at Booth No. 1526—Philadelphia—May 18-22
5th National Material Handling Exposition

If you write maker identify as IEN - 5237

FEEL THE DIFFERENCE!

...HAVE UNMATCHED Smoothness of Operation

Turn the knob of an OHMITE rheostat, and feel the gradual, smooth-gliding action! You get the close, uniform control usually found in fine, laboratory rheostats. Special OHMITE design features are the reason... pivoted universal-joint action of the contact brush for flush-floating contact; a metal-graphite brush for perfect contact and negligible wear on the wire; and a patented tempered steel contact arm for uniform contact pressure. No wonder these all-ceramic and metal rheostats are "tops" in electrical control!

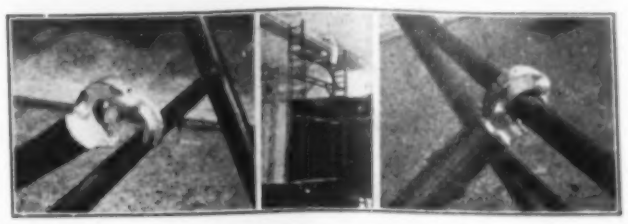
Write on Company Letterhead
For Catalog No. 40
OHMITE MANUFACTURING CO.
4813 Flournoy Street
Chicago 44, Illinois

Be Right with OHMITE
RHEOSTATS • RESISTORS • TAP SWITCHES

If you write maker identify as IEN - 5239

SCAFFOLD . . Steel ladder sections assemble with locking type jaw clamps

Source: UNIVERSAL MFG. CORP.
851 Thomas St., Zelienople, Pa.



Lightweight, rigid, safe

Tubular steel ladder sections, with rungs spaced at 1 ft. intervals, serve as the uprights and platforms in the company's new Ladscaf scaffolding. The sections are assembled by jaw type locking clamps mounted on diagonal braces and on outboard stabilizers for the bottom ends of the upright units. Casters can be added at the base to make the scaffold portable. Floor planks apply on the horizontal sections. The vertical ladder sections pin together to build desired heights.

If you write maker identify as IEN - 5240

TUBE . . Miniature seamless metal for electronic product manufacture

Source: UNIFORM TUBES INC.
1218-22 Level Road, Collegeville 2, Pa.

Delivery in 3 to 4 weeks

Aluminum, brass, copper, nickel, steel are some of the metals in which the company is prepared to supply its new miniature seamless tube for manufacture of transistors and other electronic equipment. Outside diameter is minimum at 0.01 inch. Wall thickness is down to 0.001 inch. Tolerance is within 0.00025 inch.

If you write maker identify as IEN - 5241

TRUCK . . Boom attachment for bundled loads such as pulpwood

Source: HYSTER CO.
2616 N. E. Clackamas St., Portland 8, Oregon

One operator and a helper

Load capacity is about 13,000 lb. for a new boom attachment that applies on the company's Model-150 lift truck. Bundled loads, such as pulpwood, can be stacked, loaded into rail cars, retrieved from storage. A "split sling" arrangement assists in taking hold of a load and releasing it safely.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5242

Making Better STAMPED Gears Is a Highly Developed Winzeler Specialty

Now, you can get *extreme accuracy* in the *Stamped* Gears you need. Better men and methods and machinery, developed through years of specialization, have resulted in a degree of economy and precision unequalled in the history of *Stamped Gear* making! Eliminate assembly headaches . . get smoother, quieter performance with WINZELER Stamped Gears.

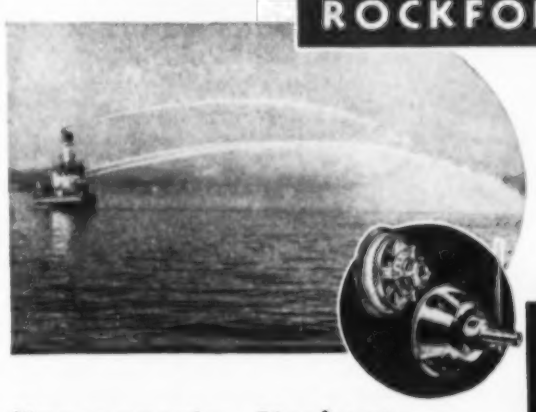
WRITE FOR FREE *4-page catalog-folder describing our facilities and the various Stamped Gears, Tools and Assemblies we make. Valuable gear data and tables are included. Or, get ideas, samples and low cost estimates. No obligation.*

WINZELER Stamped Gears

WINZELER MANUFACTURING & TOOL CO.
1712 WEST ARCADE PLACE, CHICAGO 12, ILLINOIS

If you write maker identify as IEN - 5243

CLUTCHES by ROCKFORD



Vancouver's Fireboat Stops Dock Holocaust

KERMATH MANUFACTURING COMPANY'S 550 H.P. ENGINES powered the fireboat that "hit the Vancouver dock fire like Niagara Falls". ROCKFORD POWER TAKE-OFF CLUTCHES transmit the power to the high-pressure fire pumps. Let ROCKFORD clutch engineers help develop power transmission for your heavy-duty equipment.

B-W ENGINEERING MAKES IT WORK
B-W PRODUCTION MAKES IT AVAILABLE
ENGINEERING BULLETIN SENT ON REQUEST

ROCKFORD CLUTCH DIVISION BORG-WARNER
303 Catherine Street, Rockford, Illinois, U. S. A.

If you write maker identify as IEN - 5244

KEEP AIR ACCURATE

AND CLEAN

with MASONEILAN AIR REDUCING VALVE AND FILTER

This Masoneilan pair provides all that's needed to keep operating air accurate and clean. Built for large capacity, minimum pressure loss and negligible maintenance, their extra-sturdy construction assures extra-years of dependable service.

For initial pressures up to 250 lbs. Reduced pressure 5 - 60 lb. - 60 - 100 lbs. Sizes ¼" to ½". Pressure gauge included. Sold separately or in combination.

Call your local Mason-Neilan Industrial Distributor for fast, dependable service.

MASON-NEILAN REGULATOR CO.
1188 ADAMS ST., BOSTON 24, MASS., U. S. A.

If you write maker identify as IEN - 5245

NEW featherweight Mall PRODUCTION CHAMPS PRECISION AIR TOOLS

Plants across the nation are boosting production—lowering costs—reducing worker fatigue with MALL Pneumatic Tools. The reason: abundant, vibrationless power; streamlined featherweight design; top-quality construction. Above is the new MALL PG-K-1030L Die Grinder weighing only 12 ounces. Guaranteed speed 30,000 rpm. with less than .0015 collet runout for extreme accuracy—a typical example of the precision engineering in MALL Air Tools.

40 Factory-Owned Service Warehouses, Coast to Coast, to Serve Our Customers Quickly and Capably.

MU-8

GET MORE INFORMATION NOW!

Send me additional information about MALL Tools for Industry: ☐ Pneumatic ☐ Electric
Name_____
Company_____
Address_____

MALL TOOL COMPANY 7782 S. Chicago Avenue, Chicago 19, Illinois

If you write maker identify as IEN - 5246

For example—the Electric-Aire dryers use "UMH" aluminum flexible tubing for easy directional adjustment and application of preheated air in drying plastic casts in fracture cases and in shock treatment.

Perhaps you have a specific problem in conveyance of gases, liquids, semi-solids, dust, granular materials —give us the particulars and we will be glad to make recommendations no obligation, of course.

Write for Catalog U-101

UNIVERSAL METAL HOSE CO.
2131 SOUTH KEDZIE AVE • CHICAGO 23, ILLINOIS

If you write maker identify as IEN - 5247

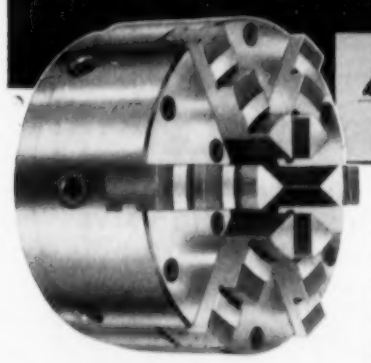
"BEST AND HANDIEST CHUCK I'VE EVER USED"

"VERY DEPENDABLE WHERE QUALITY IS OF EXTREME IMPORTANCE"

"MANY SHORT RUN JOBS CAN BE RUN WITHOUT THE NEED OF SPECIAL FIXTURES AND ARBORS"

"DOUBLED PRODUCTION RATE. TIME SAVER IN OUR WORK"

"VERY PLEASED WITH PERFORMANCE OF CHUCK"



Buck AJUST-TRU CHUCKS

Lines up dead true in less than a minute! Gives scroll chuck rechucking speed on duplicate parts with .0005" *precision*. 6 jaw 6" chuck handles work of 9¾ collets worth over $1,000! Ends most needs for stub arbors, mandrels, special fixtures. Adapts to lathes, screw machines, grinders, dividing heads. Often doubles, triples precision output.

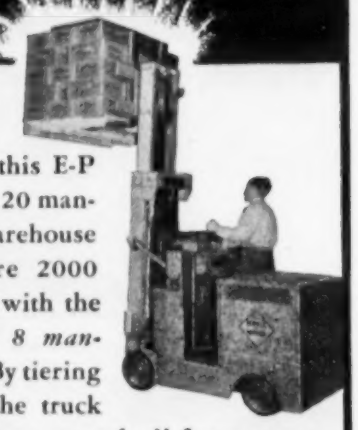
No wonder Ajust-Tru chucks receive nothing but the highest praise! Get the *full* story. Send today for the latest catalog.

Buck 6" JAW CHUCK
With 6 External, 6 Internal Jaws
4", 5", 6", 7½" Diameters

BUCK TOOL COMPANY
516 SCHIPPERS LANE • KALAMAZOO, MICH.

If you write maker identify as IEN - 5248

60% Saving in Man-Hours by ELWELL-PARKER Truck!



• Before purchasing this E-P fork truck, it required 20 man-hours at a grocery warehouse to unload and store 2000 cases of food. Now, with the Elwell-Parker, *only 8 man-hours are needed* . . . By tiering loads to the roof, the truck also permits maximum use of *all* floor space.

To learn about notable savings being made by Elwell-Parker trucks in over 300 different branches of industry, send for:—

FREE BOOKLET on *Scientific Materials Handling.* Ask for a copy of "Industrial Logistics".

THE ELWELL-PARKER ELECTRIC COMPANY
4062 St. Clair Avenue • Cleveland 3, Ohio

If you write maker identify as IEN - 5249

WOODWORKING . . Radial saw rips to the center of a 4-ft. panel

Source: DE WALT INC.
63 Fountain Ave., Lancaster, Pa.

A utility machine

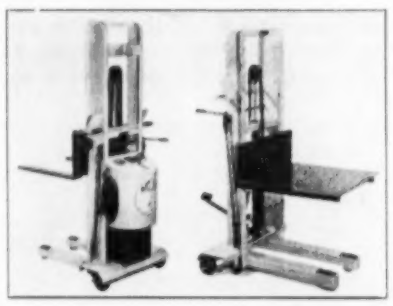
The company announces design changes in its Power Shop radial arm machine so it can be employed to rip to the center of a 4-ft. panel. This suits the machine to handle the standard 4-ft. by 8-ft. plywood composition board and plaster board panels, particularly in construction and similar work.

The machine is available in a Model MB with ½ or ¾-hp. motor and Model GW with ¾, 1 or 1½ hp. motor. Model MB is available unmounted for portable application or mounted on a sheet steel cabinet for permanent installation. Model GW is equipped with angle steel legs that bolt to the machine frame.

If you write maker identify as IEN - 5250

ELEVATOR . . Portable design, ½ ton, hand or power operation

Source: BIG JOE MFG. CO.
902 W. Jackson Blvd., Chicago 7, Ill.



Specifications on request

Load capacity has been increased to ½ ton in new assembly of the portable hand and power operated portable elevators, previously described IEN-7511-52 and IEN-8452-52. A straddle type base can be specified to 50 in. in width and either a platform or forks to handle the load. Swivel casters are employed at the rear with roller bearing wheels at the front as in the previous design.

The assembly includes dual ground gripping brakes operated by a hand lever. The battery operated design, to the left in the illustration, includes a charger and a length of extension cord and plug to connect into a 110-volt ac. power source when the truck is standing idle. Lift height is to 52, 66 to 78 in. for three available types.

Identify as IEN - 5251

Federal Telephone and Radio Corporation offers a new build-your-own kit with which you can assemble a range of selenium rectifier stacks without much expense. Rectifiers can be taken apart and reassembled into new combinations. The kit contains enough pieces for any one of twelve stacks. Drawings and instructions are included.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5252

INVINCIBLE "All Service"
Vacuum Cleaner Provides Efficient Wet or Dry Pick-Up

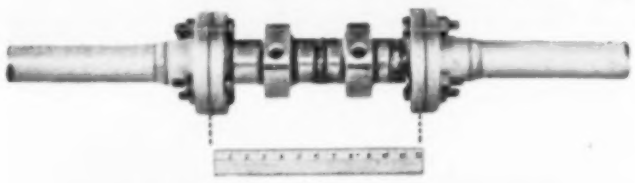
Rubber Bumpers Prevent Scuffing

Advanced design of Invincible's ⅝ h.p. "All Service" Vacuum Cleaner entirely eliminates loss of efficiency due to humidity sealing the filter bag. A positive automatic shut-off valve prevents messy overflowing that often damages the cleaner. Write for complete story . . .

ASK FOR A DEMONSTRATION • NO OBLIGATION.

INVINCIBLE VACUUM CLEANER MFG. CO.
Dover, Ohio

If you write maker identify as IEN - 5253



MINIATURE VENTURI TUBE SOLVES UNUSUAL PROBLEM

An important chemical producer looked everywhere . . . couldn't find a ready-made device to measure accurately a corrosive liquid's low flow of 159 lb./hr. So he asked the advice of Simplex.

Simplex tailor-made a welded, corrosion-resisting stainless steel Venturi tube. This Venturi tube probably is the smallest in industrial process use. Main diameter is only 0.375"; throat diameter only .105". Machining to .0005" provides specified accuracy.

Consult Simplex on your special measuring problems, large or small. *Write to* Simplex Valve & Meter Company, 6717 Upland Street, Philadelphia 42, Pa.

SIMPLEX®
VALVE AND METER COMPANY

If you write maker identify as IEN - 5254

Modernize your communications . . . without batteries

U. S. I. SOUND POWERED TELEPHONES

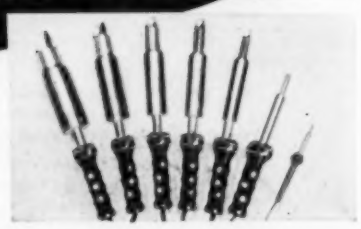
Write TODAY FOR THIS CATALOG

Write Dept. D for Catalog

If you write maker identify as IEN - 5255

Designed TO TAKE **"PRODUCTION LINE PUNISHMENT"**

WALL INDUSTRIAL
HEAT-CONTROLLED, THERMOSTATIC ACTION
SOLDERING IRONS



HEAT-CONTROL *Thermostatic Action guaranteed for the life of the iron, or double your money back!*

Outperform and outlast any soldering irons you've ever tried! Exclusive thermostatic action (*without fragile thermostats*) controls heat so perfectly that fusing and tip-burning are held to a minimum. Iron stays at "on-the-button" production heat all day long. Free catalog!

OVER 20,000,000 SOLDERING PRODUCTS SINCE 1864

WALL MANUFACTURING CO.
GROVE CITY • PENNSYLVANIA

If you write maker identify as IEN - 5256

How fast can you find ENGINEERING DRAWINGS?

All over the country, engineering departments find them in seconds with Filmsort—the easy way to store bulky drawings for quick and easy reference. They microfilm drawings of all sizes, file the film in uniform cards as small as 3x5", and find the Filmsort cards quicker than the original drawings.

There's no work in examining hundreds or thousands of drawings with Filmsort. There's no extra cost for unnecessary prints. There's no need to re-do the work of your past experience. Your engineers and detailers get the layout quicker with Filmsort.

FILMSORT Individualizes Microfilm!

...IT'S IN THE CARDS

WRITE FOR FULL DETAILED INFORMATION TODAY!

FILMSORT INC.
DEPT. I, PEARL RIVER
NEW YORK

If you write maker identify as IEN - 5257

The General Purpose Packings NO CHEMICALS CAN ATTACK

Chemiseal Extruded-Teflon Packings are universal packing materials because they are inert to all chemicals (except molten sodium and fluorine). Cannot be attacked by any material in process. Are serviceable from −110° F. to +500° F. Are tough, resilient, extremely anti-hesive allowing shafts and spindles to operate freely.

These ideal packings for field maintenance and emergency service—on valves, pumps, agitators, autoclaves, couplings or other stuffing box applications—are made in two types. No. 620-EG (graphite impregnated) and No. 620-EM (with mica).

Sold by the foot in continuous coils—they are available in ¼ in. cross section and up in increments of 1/16 in.

Ask your supply house or write for Catalog No. 620 EG and EM.

UNITED STATES GASKET COMPANY
FLUOROCARBON PRODUCTS DIVISION
CAMDEN 1, NEW JERSEY
Representatives in Principal Cities Throughout the World

If you write maker identify as IEN - 5259

INSULATING . . Asbestos panel for air conditioning plenum chambers

Source: PHILIP CAREY MFG. CO.
51 Carey Walk, Dept. FF, Cincinnati 15, Ohio

A typical job

Marine Panel designates recently improved construction of Firefoil insulating board. It is made of a 1-in. 8-ply hardened asbestos core faced on both sides with 1/8-in. hard asbestos lumber. The panels assemble in welded angle iron frames to build a plenum chamber. Water resistance has been improved over previous construction. The material is suited for temperatures to 900 deg. F.

Typical applications, in addition to air conditioning, include construction of machinery housings, partitions, bulkheads, ovens, fireproof linings for elevator shafts. The material can be worked with ordinary carpenter's tools and nailed, screwed, or bolted in place. It is designed particularly for indoor use.

If you write maker identify as IEN - 5260

FLOORS . . Conductive wax for floor finishing, will not spark

Source: GERSON-STEWART CORP.
353 Lisbon Road, Cleveland 4, Ohio

No danger of explosion

Swiftsheen Conductive is a new wax that produces a bright drying non-slippery electrically conductive surface, proof against sparking. One application, properly maintained, will last for several months under normal traffic conditions. Application does not darken or stain the floor surface.

If you write maker identify as IEN - 5261

CONVEYING . . Rubber fabric belt handles cartons on grade to 55 degrees

Source: B. F. GOODRICH CO.
448-52 S. Main St., Akron 11, Ohio

Conserves floor space

Griptop is a new design of rubber conveyor belt with a ridged and cross-cut surface. The flexible molded rubber ridges are parallel across the belt width. They stand ¼ in. in height and are cross-cut to form tiny gripping blocks that will prevent a package or carton from sliding.

In addition to carrying cartons up or down a 55-deg. grade the belt provides a self-cleaning action in which the ridges of rubber blocks fan out and release any material that may have lodged in the grooves. The belt is available in specified widths and lengths.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5262

FIREPROOF MAINTENANCE-FREE

Ruberoid Stonewall *asbestos-cement* Board is ideal for interior or exterior construction . . . cuts building costs . . . saves maintenance expense. It is fireproof, water-resistant, rot-proof, rat-proof, rust-proof . . . never needs paint. It is strong and rigid, yet bendable and easy-to-work. Can be sawed or scored and broken to size. Takes nails readily.

Use Stonewall Board for ducts, partitions, shower stalls, fire barriers, bins, exterior sheathing, arched roofs, etc. Write today for literature, cost and where to buy it. The Ruberoid Co., 500 Fifth Ave., New York 36, N. Y.

The RUBEROID Co.
ASPHALT AND ASBESTOS BUILDING MATERIALS

If you write maker identify as IEN - 5263

COMPRESSED AIR on the SPOT

IT'S EASIER . . . LESS COSTLY TO TAKE COMPRESSED AIR TO THE JOB WITH A PORTABLE Quincy COMPRESSOR

Compressed air goes anywhere — with a Quincy Portable Compressor. You can depend on Quincy to move the air supply right to the spot where it's required. Select the portable to meet your needs from a complete line of models. Four types of mountings, electric, motor or gas engine drive. Sizes 1 to 45 c.f.m. Structural steel frame for rugged service.

CATALOG AND PRICES — For illustrations, specifications, features and prices write Quincy Compressor Co., Dept. H-30, Quincy, Illinois

QUINCY COMPRESSOR CO.
QUINCY, ILLINOIS
Branch Offices: New York • Philadelphia • Detroit
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If you write maker identify as IEN - 5264

VERSATILE PRESS PRODUCES BENDS AND CURVES

Sharp, accurate bends quickly made.

Forming a 6-inch dia. cylinder. Can be made 20'-0" long.

For plants working with metal plate a Steelweld Press is about the most useful all-around tool you can imagine. It will do a wide variety of work—bending, forming, drawing, punching, etc.—with simple, easily set dies, usually at a big saving. Built for working metal of 12 gauge to one inch and for lengths to 20'-0".

Send for free copy of catalog No. 2010.

THE CLEVELAND CRANE & ENGINEERING CO.
4236 East 281st St., Wickliffe, Ohio

STEELWELD PRESSES

If you write maker identify as IEN - 5265

HYSTER PRESENTS... Two Completely NEW Lift Trucks!

UC-30
Capacity, 3000 lbs.

YC-40
Capacity, 4000 lbs.

30" Free Lift
75" Turning Radius
38" Wide
82½" Collapsed Height (with 9' lift)
Cushion Tires

The Ultimate in 4000-lb. Lift Truck Maneuverability!

STREAMLINED AND FUNCTIONALLY DESIGNED FOR UNEQUALED PERFORMANCE IN CAR LOADING, WAREHOUSE AND ALL OTHER CLOSE-QUARTER OPERATIONS

Hyster now offers, in addition to the pneumatic-tired 4000-pound YT-40 Lift Truck, a *new* lift truck in the 3000-4000-pound class—*designed specifically for close-quarter operation!*

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Call your Hyster dealer for details, or write for Catalog 1241 to:

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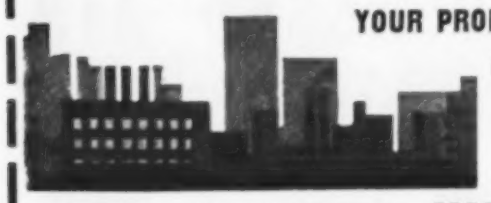
FOUR FACTORIES: Portland, Oregon; Danville, Illinois; Peoria, Illinois; Nijmegen, The Netherlands

If you write maker identify as **IEN - 5266**



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UNLESS YOU PROPERLY MARK THEM

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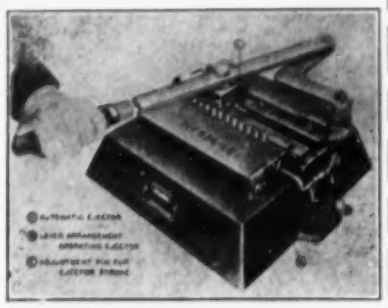
THE ONE ON THE RIGHT MARKS 12 FERRULES AT A SINGLE STROKE.

THE ONE BELOW MARKS (FILLS-IN) THE DATA ON NAME-PLATES, ALL ALIKE, AT 15 TO 30 PER MINUTE.



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Send a sample or drawing of the product you wish to mark for quotation—no obligation.

The ACROMARK Company

7 MORRELL STREET, ELIZABETH 4, N. J.

If you write maker identify as **IEN - 5267**

With "CONTROL" ONE good towel gets a chance!

In spite of what you read and hear, high quality towels are often wasted just like cheap towels because users snatch two or three from a cabinet without giving one good towel a chance to prove that it can completely dry the hands.

But Mosinee Controlled Cabinets, which dispense just one pure sulphate Mosinee towel at a time, give the user a chance to dry his hands on the *first* towel. He seldom needs a *second*. That is why Mosinee Controlled towel services are showing from 25% to 50% cuts in towel costs. You can prove this by a trial in your own washrooms.

MOSINEE Sulphate Towels

MOSINEE means better towel service at less cost.

BAY WEST PAPER CO.
1114 West Mason Street
GREEN BAY • WISCONSIN
Division of Mosinee Paper Mills Co.

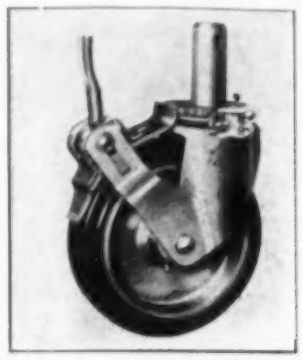
Send For MOSINEE SAMPLE TOWELS and data on Controlled Cabinets

If you write maker identify as **IEN - 5268**

If you write maker identify as **IEN - 5269**

CASTER . . Has foot brake for use on scaffolds, platforms, racks

Source: FAULTLESS CASTER CORP.
1519-23 N. Garvin St., Dept. IEN, Evansville 7, Ind.



Ball bearing swivel

Pressing downward on the foot lever, with which this new caster is equipped, moves a cantilever type spring brake downward and inward. The movement applies pressure on the wheel tread and on a serrated swivel plate on the caster king pin. It locks both the rolling and swivel actions. Reversing movement of the foot lever retracts the shoe from both braking surfaces and holds it in a position where it cannot drag.

New feature is in the addition of a 6-in. caster to the previously developed 5 and 8-in. sizes. It can be supplied with a semi-steel, or rubber tired, vulcanized, Ruberex Plaskite wheel. The semi-steel and rubber tired Plaskite units rate 650-lb. load capacity. Overall height of the new unit is about 7¼ inches. Swivel radius is 4¾ inches. Weight is about 16 pounds.

If you write maker identify as **IEN - 5270**

CONNECTOR . . Plugs and sockets, unlimited combination of four elements

Source: ELCO CORP.
188-92 W. Glenwood Ave., Philadelphia 40, Pa.

The Varicon Kit

The company has assembled a supply of its four basic plugs and sockets into a kit for utility use in setting up various circuits. The parts themselves are the same as those previously described IEN-8059-52, in which fork type conducting fingers are clamped within sectional Durez plastic body pieces.

Any number of body sections can be assembled to make a desired bank of circuits. Each rates 30 amp. at 110 volts. The assembly rates 4,000 volts between the closest terminal. The contacts are made of brass, bronze or beryllium copper and are silver plated. They are suitable for 300-ohm circuits.

Identify as **IEN - 5271**

The boiling point of a liquid can be determined, in relation to the boiling point of water, by a new thermometer developed by Rochester Manufacturing Company. The pointer on the dial type instrument is adjustable so it can be set to zero while its bulb is immersed in boiling water. Then it is applied in the test liquid and a reading made when that liquid boils. Atmospheric pressure thus is taken out of the comparison.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

B&W BULLETIN TB-6F

Properties of Carbon, Alloy and Stainless Steel Tubing for High-Temperature and High-Pressure Service

New data contained in the seventh, revised edition of B&W's Technical Bulletin 6F make it must reading for technical personnel concerned with the properties of tubing for high-temperature and high-pressure service. Bulletin covers a wide range of information on applications, grades and analyses of Croloys ½ through 9-M.

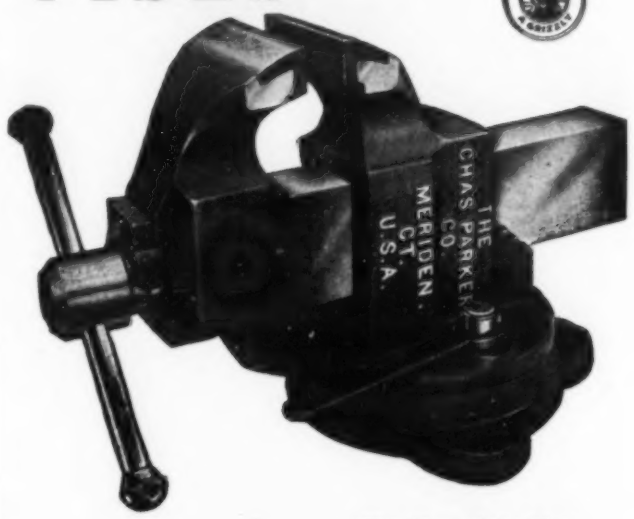
Write on your company letterhead, please.

TA-1744 (P)

THE BABCOCK & WILCOX COMPANY
TUBULAR PRODUCTS DIVISION
Beaver Falls, Pa.—Seamless Tubing; Welded Stainless Steel Tubing
Alliance, Ohio—Welded Carbon Steel Tubing

If you write maker identify as **IEN - 5272**

PARKER VISES



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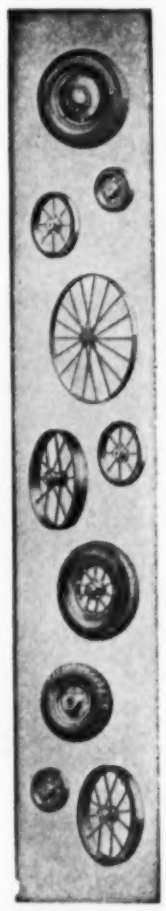

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Our 65 years of engineering "know-how" assures you of top performance from ELECTRIC equipment.

ELECTRIC wheels are furnished with or without roller bearings to fit your own axles or complete with axles—steel tires, molded-on-tires, or pneumatic tires. All types are available in a full range of sizes.

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Now Available in STANDARD STOCK DRIVES

During the past six years, original equipment manufacturers have found in custom-engineered "Timing" Belt drives a means of simplifying and improving their products' design and performance. Now the *same* advantages can be applied by plant engineers to various individual drives at a cost competitive with other methods of power transmission. A wide range of Gilmer *Standard* "Timing" Belts and matching pulleys are now—or soon will be—available from local distributors' stocks.

Wherever slippage or drive lubrication presents a problem, or the saving of space or weight is important, consider these unique features of the "Timing" Belt drive:

CAN'T SLIP—Positive engagement of the "Timing" Belt's teeth with axially-cut pulley grooves assures no slippage, no creep, no power loss, precision control of speed ratio.

STRONG, LIGHT, FLEXIBLE—A single layer of continuously-wound, neoprene-encased, steel cable of high tensile strength gives the "Timing" Belt highest strength-to-weight ratio, with extreme flexibility. No stretch; no take-up. Range: 1/100 to 300 hp.

NO INITIAL TENSION—Teeth, not friction, provide the grip... reducing bearing loads and eliminating need for outboard bearings.

NO LUBRICATION—Absence of metal-to-metal contact eliminates need for lubricants, lubricating devices and housings. High Speeds cause no lubricating problems.

ULTRA COMPACT—Very small pulleys can be used without slippage, permitting very short centers and high ratios.

SPEED RANGE—Operates without slippage at speeds of inches per day to 15,000 rpm. Mechanical efficiency is very close to 100%.

Ask your local NYB&P Distributor for a copy of the Gilmer "Timing" Belt STANDARD DRIVE MANUAL or use the request form to obtain a copy of the Manual and location of nearest stock-carrying distributor.

NYB&P NEW YORK BELTING & PACKING CO. 1 Market St., Passaic, N. J.

America's Oldest Manufacturer of Industrial Rubber Products

If you write maker identify as IEN - 5278

DRIVE . . Magnetic motor brake grips on opening the motor circuit

Source: DINGS BRAKES INC.
4738-42 W. Electric Ave., Milwaukee 46, Wis.

Includes hand release

An electro magnet in the assembly of this new motor brake acts against brake setting springs to release a motor when its electric circuit is closed. The brake holds in released position until the motor circuit is opened when the springs reset the friction discs to stop further rotation. Assembly is in a cast aluminum housing and cast iron mounting bracket.

Standard construction is enclosed and weather proof. Explosion proof design can be specified. The friction discs are made of molded asbestos and are backed by a pressure plate on which the springs bear. The brake is available for all standard fractional horsepower ac. and dc. motors. It provides torque ratings of 1½, 3 and 5 foot pounds.

If you write maker identify as IEN - 5279

INSULATING . . Mineral wool blocks, mechanically strong to 1,900 deg. F.

Source: EAGLE-PICHER CO.
902 American Bldg., Cincinnati 1, Ohio

Technical data upon request

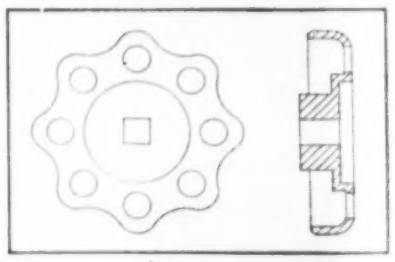
Supertemp "PV," pressure-vacuum, trade names a new mineral wool insulating block. It is in production on special equipment that operates with a combination of vacuum and pressure. The mineral wool fibers within the block become felted and compressed to provide marked mechanical strength as well as insulating ability.

Four sizes are 6 by 18 in., 6 by 36 in., 12 by 18 in., and 12 by 36 inches. Each is available in ½-in. increments of thickness from 1 to 4 inches. Packaging is about 36 board feet per carton with weight at about 66 pounds.

If you write maker identify as IEN - 5280

VALVES . . Die cast handwheel available in three square stem sizes

Source: GENERAL CAST PRODUCTS INC.
2209-13 Waverly St., Swissvale, Pa.



Unmachined

Delivery is from stock for this new Zamak No. 3 die cast handwheel for use on valves. Four diameters are between 2 and 2¾ inches. Three square stem sizes are ¼, 0.290 and ⅜ inch. The wheel provides a good turning grip with dry or greasy hands. A recess in the top center makes space for a name plate or operating instructions.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

Nicholson Superior Milled Curved Tooth File (rigid type)

Changing personnel in industry creates a never-ending educational need on the subject of files and filing. In the shop-school the logical teacher is usually the shop foreman or production superintendent. The logical text-book is Nicholson's "FILE FILOSOPHY." "File Filosophy" has become universally accepted as an authority and practical guide in the art of filing.

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Write — Booklets offer new, low-cost solutions to current machine design problems, as interpreted by industry experts. A "must" for management.

WARNER — WARNER ELECTRIC BRAKE & CLUTCH CO.
BELOIT, WISCONSIN

If you write maker identify as IEN - 5282

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• THE ORIGINAL COMPOUND SHEAR

CUTS BAND IRON • ¼" BRASS (any width) • COPPER, SHEET IRON TIN, BAND SAWS (any thickness or width) • 12 GAUGE BESSEMER STEEL

IMMEDIATE DELIVERY $29.00

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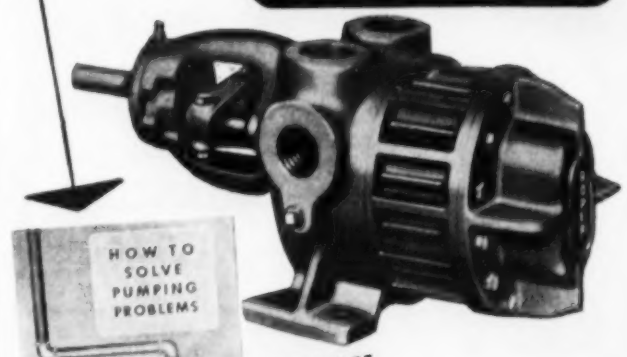
ROPER *Rotary Pumps*



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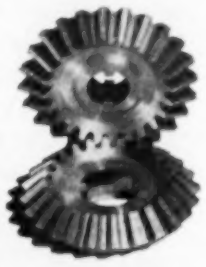

HELICAL and BEVEL GEARS—From 1" to 60" in diameter and from 24 DP to 1½ DP.
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YOUR GEAR INQUIRIES WILL RECEIVE IMMEDIATE ATTENTION
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SALIENT FEATURES OF HAR-BAR BARRIERS

1. High enough to stop your car.
2. Low enough to clear your bumper guards.
3. Barrier is above ground — no drainage problem.
4. Barrier is above ground — no rotting of wood.
5. Automatically spaces your cars.
6. Follows contour of your ground.
7. Easily installed — just line up and drive the anchor pins.
8. Easily moved — just pull the anchor pins. 100% reusable.
9. Easy to clean under.
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11. Installed on any kind of surface — black top, cement, macadam, gravel or cinders.
12. It really dresses up your parking lot.
13. You always stop against your tire — no shock.
14. Castings are non-rusting aluminum alloy.

Send us a plot plan of your parking lot—we do the engineering free.

HARRIS-BARRIER, INC. 5407 N. PENNSYLVANIA STREET INDIANAPOLIS 5 - INDIANA

If you write maker identify as IEN - 5286

Now faster, more accurate balancing of ARMATURES—FANS—Light Revolving Parts

the New CROWN Supersensitive BALANCING WAYS

MODEL 1105

Show up instantly the slightest imbalance in the smallest armatures. Supersensitive, pivot-type bearings and four free-turning discs practically eliminate friction drag. No set up or leveling. Portable. Loads up to 35 lbs. and 10" swing.

- SENSITIVE to .006 oz.-in.
- ENDS . . . Slow Trial and Error
- NO CENTERING NEEDED

$48.00 F.O.B. Woodstock, Ill. State or local sales tax extra

USE THIS HANDY COUPON

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715 Amsterdam Street, Woodstock, Illinois
☐ Please ship _____ CROWN Balancing Ways, Model 1105 @ $48.00, F.O.B., Woodstock, Illinois.
☐ Please send catalog data only, now.
Name _____
Company _____
Our Purchase Order No. _____
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For Your Special Information

ALL MAKERS ARE LISTED IEN S-13

When you read this item the last of the Thomas' Register copies for 1953 will have been sold and we will be faced with the need to tell additional subscribers that we cannot fill their orders unless we can persuade present owners to return their copies. As a matter of fact, a mailing piece went out last month to some 20,000 subscribers to the 1953 edition suggesting that they sell their copies back to us so we can fill urgent industrial and government orders. So far we have received less than a dozen replies.

If you happen to know of any 1953 edition that is not in active service supplying source information on every conceivable product subject we hope you will let us know so we can apply for its return and place it where it can go to work.

EXPOSITION IEN S-14

Materials handling will be the main subject at the exposition in Convention Hall, Philadelphia, May 18 to 22. Two hundred and fifty-five manufacturers will exhibit their current products. Among them will be a great many that are making their first appearance. The exposition is expected to attract some 25,000 plant operating executives. Some companies are sending several representatives, each to study a phase of the whole materials handling problem.

Industrial Equipment News will have a booth where we will undertake to answer any plant problem you want to bring along with you. Some we can answer at once. Others we will bring back home to check through our own sources for information. We will be happy if we can help make your visit to the show a real success.

EXPOSITION IEN S-15

Electrical Manufacturer's Representatives Association of Michigan will be holding its bi-annual exposition of electrical apparatus and equipment at the Michigan State Fair Grounds on May 19 to 22. There will be some 200 exhibits.

WOULD YOU BE INTERESTED? IEN S-16

A set of IEN issues for one year, assembled into a bound book, can be made and shipped for estimated cost of $20. If you would be interested in such a bound reference book, please let us know by checking the number above on your Service Slip and returning it. The idea is tentative at present. It could be started in 1954.

U. S. SAVINGS BONDS IEN S-17

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If you write maker identify as IEN - 5288

The Colson Universal Drum Truck

Makes LIGHT of Heavy LOADS

Handling drums or barrels the COLSON Universal Drum Truck lets one man do the work of two. Any size container may be locked between the adjustable climb hook and pick-up tips. COLSON'S leverage lift prevents strain. Even heavy loads move easily on the 10" steel disc wheels with cushion rubber tires.

Other time and labor-saving COLSON Materials-Handling equipment includes hand trucks, platform trucks, Lift-Jack systems, and wheels and casters for every industrial application.

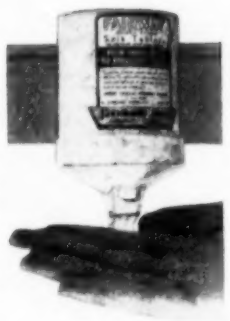
Write for Free Catalog on Colson Materials-Handling Equipment

THE COLSON CORPORATION
ELYRIA, OHIO
CASTERS • LIFT-JACKS • INDUSTRIAL TRUCKS

If you write maker identify as IEN - 5289

When the Heat's On...

REPLACE LOST BODY SALTS THE ECONOMICAL WAY



Salt tablets are the easiest way to replace body salts lost in perspiration . . . that's common knowledge. It's also becoming common knowledge that Fairway Crystal Salt Dispensers are one of the easiest ways for you to supply salt tablets.

No need to refill the "Crystal" . . . the low cost of it does away with that! No "dirty" tablets either . . . because the ENTERIC COATED tablets are sealed into each "Crystal!" Easily installed anywhere, easily replaced when empty!

NOW is the time to order . . . BEFORE heat fatigue slows down production!

Available in 1000 tablet size "Crystal M" or standard 500 tablet "Crystal."

Write in Today for Bulletin No. 11

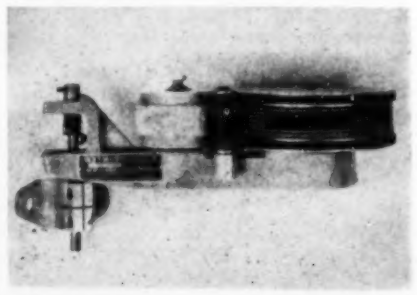
STANDARD SAFETY EQUIPMENT COMPANY
232 W. Ontario St. Chicago 10, Ill.

If you write maker identify as IEN - 5290

CODE, DATE and MARK AUTOMATICALLY on your CONVEYOR LINE with the "WHIPPET" MARKER

The "Whippet" marks filled bags, cartons, boxes, rolls, cans, etc. with quickly interchangeable rubber type. Inking is through a felt roller that has self-contained reservoir. No installation problems—readily adaptable to your present conveyor system.

The "Whippet" Marker is just one of Industrial's coding and marking machines designed for more efficient marking and movement of materials on production lines. Let us help you with your problems — write today. "FREE" Catalog upon Request.



THE INDUSTRIAL MARKING EQUIPMENT COMPANY, INC.
454 Baltic Street, Brooklyn 17, N. Y. • Dept. I.E.N.
Phone MAin 4-2601

If you write maker identify as IEN - 5291

he's a one-man dynamo with

ELECTROLIFT WORM DRIVE HOIST

It takes only one man to safely and economically lift and spot heavy production materials with ElectroLift worm drive hoists. Smooth and fast moving, with either rope or push button control.

For details on speed, capacity and models, consult your ElectroLift representative listed in telephone directory.

ELECTROLIFT

ElectroLift, Inc.
30 Church St., New York 7, N. Y.

If you write maker identify as IEN - 5292

GRINNELL-SAUNDERS DIAPHRAGM VALVE

The operating principle of the Grinnell-Saunders Diaphragm Valve is simple. A rubber diaphragm, seating on metal, makes possible an absolute seal. At the same time, because working parts are wholly isolated, no packing glands are necessary, and stem leaks are impossible.

Successful on compressed air lines, it was only a matter of time before Grinnell-Saunders Diaphragm Valves were in demand for other type installations . . . handling materials as diversified as corrosive fluids, gases, beverages, foods, suspended solids . . . in lines where corrosion, abrasion, contamination, clogging, leakage and maintenance are costly factors.

Grinnell-Saunders Diaphragm Valves can be had with body, lining and diaphragm materials to meet different service conditions. Write for the Grinnell-Saunders Diaphragm Valve Catalog.

Quick Operating Valve

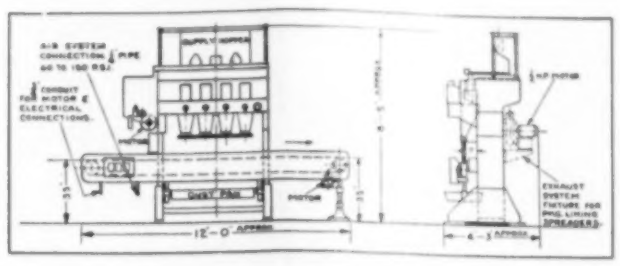
GRINNELL
WHENEVER PIPING IS INVOLVED

GRINNELL COMPANY, INC.
Executive Offices: Providence, Rhode Island
Sales Offices and Warehouses in Principal Cities

If you write maker identify as IEN - 5294

PACKAGING . . Net weighing machine for dry materials, is air controlled

Source: PNEUMATIC SCALE CORP.
63-67 Newport Ave., Quincy 71, Mass.



Performance data on request

Weighing accuracy combines with fast action in this new Pneumatron net weighing machine. It is available in two and four scale assemblies for operation at 70 and 140 packages per min. in single weighing action or 45 or 90 packages per min. when dual weighing is employed. In the first case the machine delivers a uniform stream of material and the receptacles are emptied into the containers when the scales read full. In dual stream operation the supply hoppers are furnished with two sets of shutters or gates so one closes when approximate fill has been completed and this is followed by a small dribble stream to final weight.

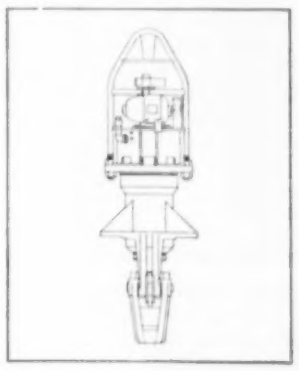
Continuously balanced cantilever weigh-beams move only a few thousandths of an inch during the weighing operation. Their deflection is measured by an air actuated control for accuracy within hundredths of an ounce. The mechanism does not employ knife edges or delicate trip mechanisms. Material feed is from a supply hopper to the weighing receptacles by means of vibrating feeders. Feed rate can be adjusted at each scale while the machine is operating. Filling weights can be increased or decreased without shutting down.

The assembly includes new photoelectric carton control and new vacuum operated package lining spreaders that apply suction on the liners. These spreaders also insure filling without spillage and remove any dust that rises as the product moves into the containers.

If you write maker identify as IEN - 5295

HANDLING . . Ingot stripper designed to suspend from crane hook

Source: PITTSBURGH ENGINEERING & MACHINE CO.
353 Sixth St., Glassport, Pa.



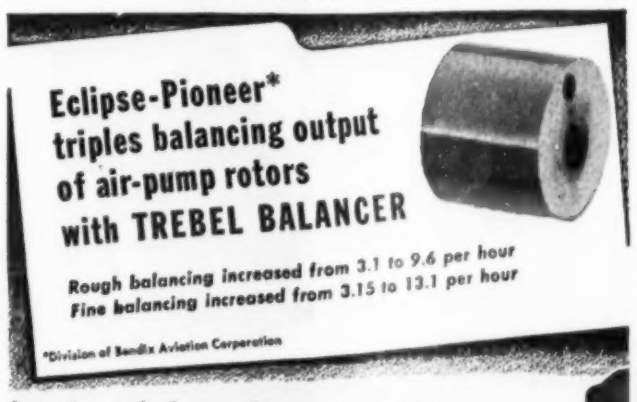
Crane man works it

Hydraulic pressure, supplied by a motor driven pump mounted in the upper portion of this new 250-ton stripper, provides for an 18½-in. ram stroke and for opening and closing the lift fingers that grip ears on the sides of an ingot mold. The assembly can handle molds ranging from 37½ to 52 in. over the lifting ears.

Control centers at pushbutton stations connecting through an extension cable from the operator's position in the crane cab. When the stripper is not required it can be positioned over a stand and released from the crane hook.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5296



Locate unbalance in your rotating parts this fast, simple way

Takes less than a minute to read, 2 minutes to set up.

No special skills are needed to detect the *unbalance* that causes *vibration* in rotating parts . . . when you use the TREBEL DYNAMIC BALANCER.

The unique TREBEL dynamic balancing principle applies a variable counter-vibration to counteract unbalance vibration. Direct readings in ounce-inches give the *amount* of unbalance without further calibration; readings in degrees show *location* of unbalance.

That's why so many leading plants use the TREBEL.

Write for Catalog "C" or see a demonstration in your own plant.

Model 2 b 5 Trebel Balancer
Weight capacity 2½ oz. to 4½ lbs.
Bar work diameter 7", length 18"
Accurate within 0.0025" displacement of center of gravity
Other Trebel models for work up to 22,000 lbs. and 60½" dia.

KURT ORBAN COMPANY, INC.
206 East 42nd St., N. Y. 17 • Offices in Cleveland, Detroit, Los Angeles, San Francisco, Houston
Canadian sales by European Machinery Ltd., 11 King St. West, Toronto, Canada.

If you write maker identify as IEN - 5297

At left: Jacketed 3-Way Plug Cock.

Below: Cutaway section of Jacketed Cock, showing packing gland construction.

H&B ESTABLISHED 1897

Jacketed Pipe, Pumps, Valves and Fittings . . .

Regardless of whether the material is being heated or cooled in the processing, and what heating or cooling medium is being used, H & B jacketed fittings are available for all applications. Steam, hot water or hot oil may be used for heating, cold water or brine for cooling.

H & B can save you money on your jacketed pipe and fitting requirements because we buy all standard size pipe from the mill in carload lots, make our own special flanges in quantities, and are tooled up for making jacketed equipment at lowest possible price. Write for Bulletin J-50.

Hetherington & Berner Inc.
725 Kentucky Avenue • Indianapolis 7, Indiana

If you write maker identify as IEN - 5298

HANDY POCKET THERMOMETERS make your testing easy

BINOC* tubing, the optically-correct thermometer tubing, provides a wide angle of vision and high magnification . . . the column is easily visible . . . there are no confusing bore reflections. Available in many ranges, red liquid or mercury filled.

For full information about Taylor's complete line of precision quality laboratory instruments, write for **Catalog LH.** Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

Mercury filled, in non-sparking brass armor. Length 5½". Ranges available: minus 30 to + 120°F and 0 to 220°F. In 2° divisions.

Red liquid or mercury filled, complete with metal pocket case. Just 5½" long. Made in variety of ranges and 1° or 2° divisions to meet all requirements.

*Reg. U. S. Pat. Off.

TAYLOR INSTRUMENTS MEAN ACCURACY FIRST

If you write maker identify as IEN - 5299

SHENANGO *Centrifugal* CASTINGS ... KEY TO SAVINGS

It pays to know the facts
SEND FOR THIS BULLETIN

use **SHENANGO BAR STOCK** for superior quality parts!

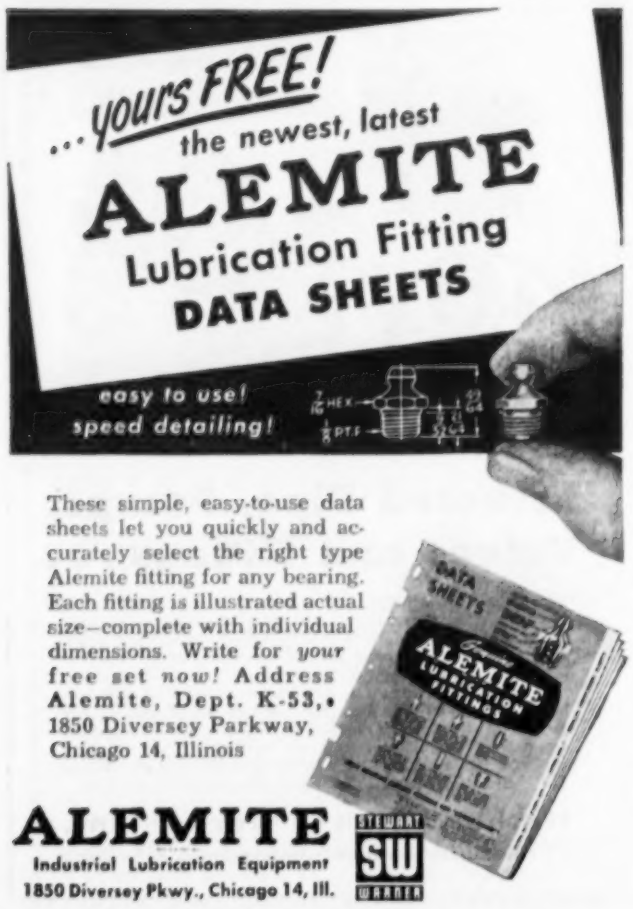
SHENANGO Meehanite Metal bars have exceptionally fine grain, higher tensile strength, finer, more uniform graphite dispersion. So naturally you can count on superior wear-life, and less chance of breakage or distortion in service.

Learn more about the money-saving qualities that make Shenango solid and tubular bar stock a preferred material for bearings, bushings, pump parts, liners, sleeves, gears, dies, gauges, and many other common and special parts. Send for the new Shenango Bar Stock Bulletin No. 152, containing additional information and a list of standard, conveniently stocked sizes.

SHENANGO-PENN MOLD COMPANY
Centrifugal Castings Division
Dover, Ohio
Executive Offices: Pittsburgh, Pa.

SHENANGO
ALL RED BRONZES • MANGANESE BRONZES • ALUMINUM BRONZES
MONEL METAL • NI-RESIST • MEEHANITE® METAL

If you write maker identify as IEN - 5300

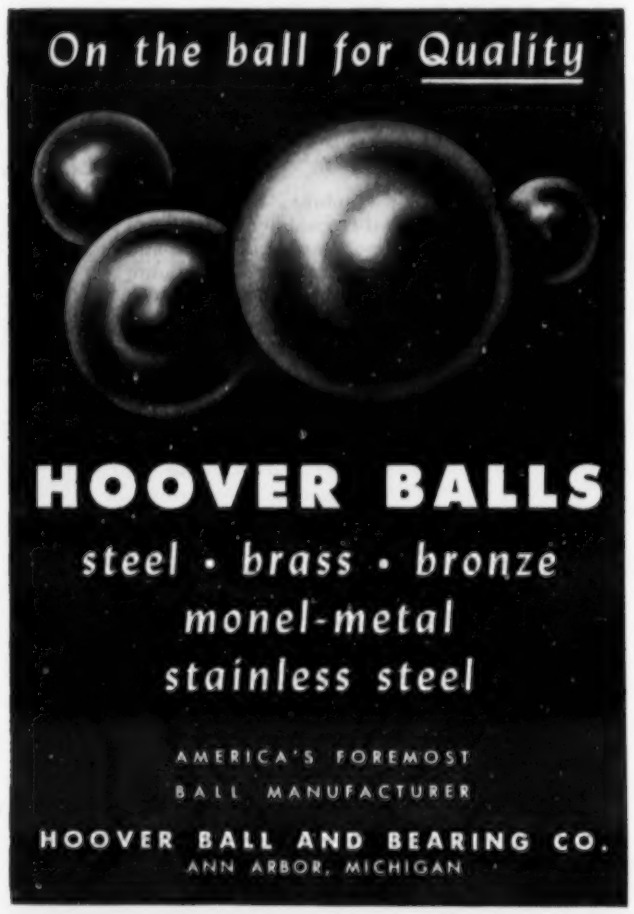


These simple, easy-to-use data sheets let you quickly and accurately select the right type Alemite fitting for any bearing. Each fitting is illustrated actual size—complete with individual dimensions. Write for *your* free set *now!* Address Alemite, Dept. K-53, 1850 Diversey Parkway, Chicago 14, Illinois

ALEMITE
Industrial Lubrication Equipment
1850 Diversey Pkwy., Chicago 14, Ill.

STEWART WARNER

If you write maker identify as IEN - 5301



If you write maker identify as IEN - 5302

CLEVELAND *Top Quality* **FASTENERS**
The Cleveland Cap Screw Company
2917 East 79th Street Cleveland 4, Ohio

If you write maker identify as IEN - 5303

HEATING . . Gas fired space unit rates 85,000 to 215,000 btu. per hour

Source: DRAVO CORP.
Liberty & Fifth Aves., Pittsburgh 22, Pa.

Hangs from overhead

Model B, with a standard motor driven fan, and Model DB, with a motor driven squirrel cage blower, for short duct runs, have been added to the company's lines of space heating equipment. A third Model DD, from which the blower is omitted, is designed as a heating unit to be built directly into an air conditioning duct.

A cast iron bunsen type burner is assembled in removable arrangement for servicing and cleaning in which a drawer frame slides out from its position in the housing with the mounted burners and controls. Each unit carries American Gas Association Approval and is listed by Underwriters' Laboratories, Inc. Each is flame tested before shipment and burns any gas.

If you write maker identify as IEN - 5304

TRUCK . . Drum lift attachment replaces forks on company's trucks

Source: LEWIS-SHEPARD PRODUCTS INC.
190 Walnut St., Dept. R-6, Watertown 72, Mass.

Adjusts to drum size

Liftomatic is a new attachment with which the company's Spacemaster lift trucks can be equipped to pick up, stack and remove loaded steel drums from storage. It consists of a clamping mechanism attached to an adjustable slide that rides between two upright rails. These rails are welded to a cradle in which a drum rests in carrying position. The clamp includes a spring actuated inner housing containing upper and lower gripping jaws.

The jaws engage the drum chine when the operator presses the attachment against a drum. They release when the operator lowers a suspended drum to the floor, or to a pile, and continues the downward movement a little further.

Identify as IEN - 5305

Want to take oil, grease, any liquid, from work you have processed in a tumbling mill? We suggest you ask for a free sample of the new finely ground material Cottontex and try it. Cottontex Manufacturing Company says it will absorb about eight times its own weight of the unwanted liquids. It is light, soft, fast acting in its application.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5306

to make
NOISE SURVEYS
Accurately
Conveniently
Simply

The GR Type 1555-A
Sound-Survey Meter is a pocket size, inexpensive, accurate and reliable sound level meter, with which noise surveys can be made by anyone.

Its range is 40 db to 136 db above the standard reference level; its accuracy is essentially within the tolerances of the A.S.A. It has proven invaluable to acoustical engineers, sales engineers and consultants needing a really compact and portable instrument for preliminary noise studies and surveys.

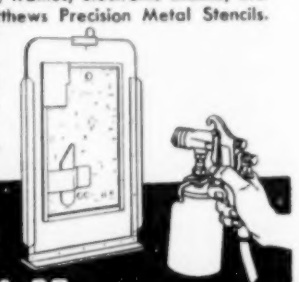
PRICE: $125.00

Write for the SOUND SURVEY BULLETIN

GENERAL RADIO Company 275 Massachusetts Ave. Cambridge 39, Mass.
90 West St. NEW YORK 6 520 South Michigan Ave. CHICAGO 5
1000 North Seward St. LOS ANGELES 38

If you write maker identify as IEN - 5307

Completely mark engineering assembly details, codings, numbers and other data on metal stampings, frames, electronic chassis, etc. in a fraction of a minute with Matthews Precision Metal Stencils. Matthews Precision Stencils give you controlled accuracy . . . allowing average workers to perform skillful assembly jobs, easily, surely, quickly. For complete information and literature on Precision Stencils



Write today to
JAS. H. MATTHEWS & CO.
3962 FORBES ST. • PITTSBURGH 13, PA.
CLIFTON N. J. BOSTON CHICAGO PHILADELPHIA

If you write maker identify as IEN - 5308

ORANGEVILLE HAND TRUCKS

"Keep Loads Alive"

Illustrated are a few of the many hand trucks we make for factory and warehouse use. They are typical of a wide range of available types and sizes which we can furnish in two-wheel and four-wheel designs. We also build special trucks to order to meet unusual handling needs.

Write for Catalog 50

FLOOR TRUCKS ORANGEVILLE

ORANGEVILLE MFG. CO.
ORANGEVILLE 15, PA.
Established 1879
See us at Booth No. 410 - Philadelphia - Materials Handling Exposition

If you write maker identify as IEN - 5309

LESTO
Electric
HAND SAW

RIP
SCROLL
BAND
JIG
CROSSCUT
COPING
KEYHOLE

Extremely fast for soft and hard wood, soft metal, bone, plastics, hard rubber, cement sheet, pressed wood, etc.

Cuts 2" Wood Beams

Write for Literature
Sold and Serviced in Principal Cities Throughout U.S.A.
VICTOR J. KRIEG, Inc.
Exclusive Importer
611 Broadway, New York 12, N. Y. GRamercy 7-5757
Some Sales Territories Available

If you write maker identify as IEN - 5310

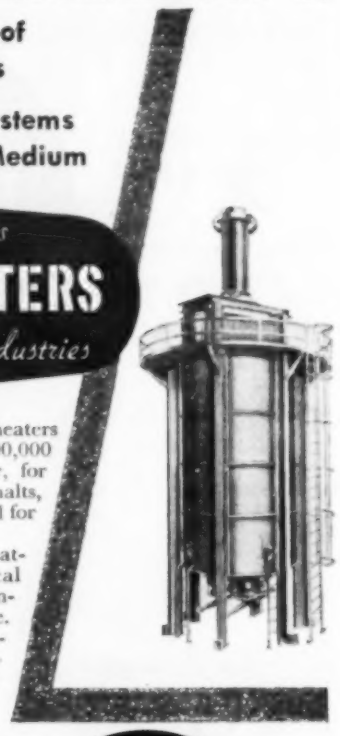
★ For Direct Heating of Liquids and Vapors

★ Indirect Heating Systems Using Circulating Medium

Struthers Wells

FIRED HEATERS

for the Process Industries



Struthers Wells direct fired heaters are available in sizes from 100,000 to 25,000,000 BTU per hour, for heating gasoline, oils or asphalts, superheating steam or gas, and for indirect heating systems.

Struthers Wells indirect heating systems give economical—trouble-free operation at temperatures to 750° F., or above.

If your process requires temperatures above those of existing steam supply—if steam is not available, or if the process can be improved by higher temperatures, investigate this simple and economical equipment.

Struthers Wells

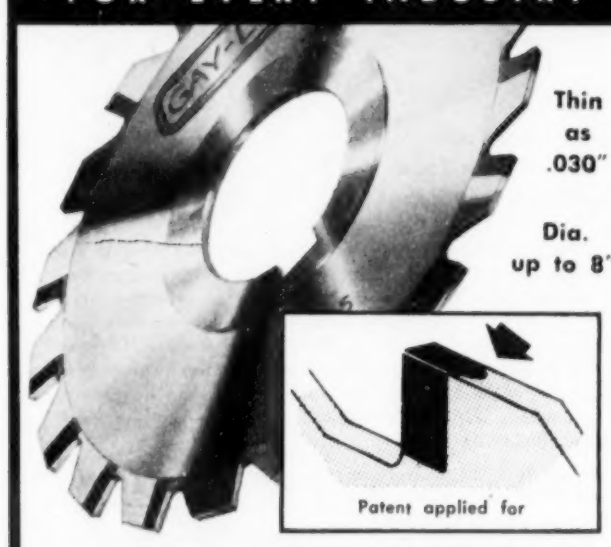
STRUTHERS WELLS CORPORATION
Warren, Pa.
PLANTS AT WARREN, PA. • TITUSVILLE, PA.
Offices in Principal Cities

If you write maker identify as IEN - 5311

CARBIDE TIPPED

THINSAW

FOR EVERY INDUSTRY



CIRCULAR SEAT GIVES GREATER BRAZE AREA—BETTER TIP SUPPORT

This exclusive Gay-Lee carbide tipped saw design has completely changed the slitting, slotting and sawing picture. Now carbide tips stay in and run-out is eliminated. You get the full benefit of carbide's faster cutting ability.

WHAT IS YOUR SAW PROBLEM?

We are specialists in carbide saw design and manufacture. We have solved some tough jobs and some big ones. Can we help you?

Hub Saw — Thinsaw — Small Saw

Carbide teeth profile ground on Special Order

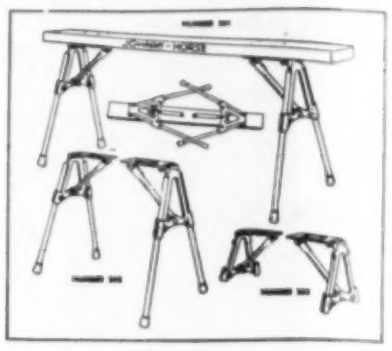
WRITE FOR DATA

GAY-LEE COMPANY
CLAWSON • MICHIGAN

If you write maker identify as IEN - 5313

SCAFFOLD . . Folding brackets, tubular legs and wood top assembly

Source: JON-NE-FUT MFG. CO.
Box 226-A, South Gate, Calif.



For utility use

New design of folding bracket and detachable tubular legs, equipped with rubber feet, provides the necessary equipment, with a wood top, to make a saw horse, table, or scaffold assembly. The unit is shown as a complete saw horse in the illustration and also as an assembly of legs and brackets or of brackets only. Vertical adjustment can be made through 5 in. from 25 to 30 in. in the saw horse assembly. The adjustment is made after releasing the bracket clamps that grip the legs.

If you write maker identify as IEN - 5314

METAL RINGS . . Available to order in specified sizes and materials

Source: AUTO-DIESEL PISTON RING CO.
3123 Superior Ave., Cleveland 14, Ohio

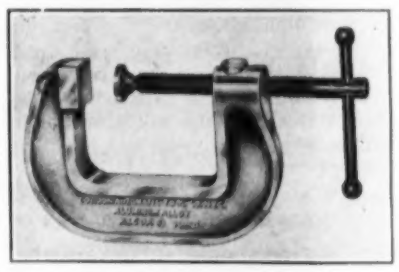
Offers "Know How" and facilities

The company announces addition of a special service to its regular production of piston rings for engines, compressors, cylinders, valves. It is prepared to produce these rings in split or solid form using square, round or strip stock, tubing or channel. It can handle sizes equivalent to ½-in. mild steel bar stock or strips of the same type of material or its equivalent from 1/16 in. in thickness and up to 1½ in. in width.

If you write maker identify as IEN - 5315

CLAMP . . Aluminum alloy C frame, quick acting screw, opening to 8 in.

Source: GORDON AUTOMATIC TOOL CO.
152-56 Spring St., New York 12, N. Y.



Designed for welders

Aluminum frame in this new C clamp develops 2,400 lb. in proof load handling, in the 3-in. size, to 4,500 lb. in the 8-in. size. Throat depth ranges from 2½ to 5 inches. Screw diameter is ½ to ¾ inches. Weight is 1½ to 5 pounds.

The screw threads through a spring backed plunger that can be depressed to release so the screw can be moved axially without turning. This provides quick advance and retraction. Weld spatter will not adhere to the aluminum frame.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5316

Maintenance TRESTLE gives you such VERSATILITY!

Gets your men up to any working level quickly, safely! Adaptable to any job, inside or out! Bridges obstacles, adjusts to uneven floors or stairways. Locking casters. Patented. U. L. approved. Designed especially for painting and maintenance work . . . its uses are unlimited.

Other Bil-Jax profit-makers include tower scaffolding, swing scaffolds, sidewalk bridges, ladder jacks, steel ladders . . all of simple, sturdy design to give a lifetime of service, safety and satisfaction. Rent or buy. Distributors in principal cities.

Write for complete catalog. Address Dept. L-5.

BIL-JAX, INC., Archbold, Ohio, U. S. A.

If you write maker identify as IEN - 5317

TO THE INGENIOUS

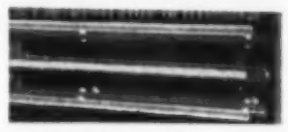
Not familiar with this

NEW INDUSTRIAL TOOL

Free Sample of Fullergript Brush Strip

What problems can you solve by adapting Fullergript to your equipment?

This brush strip can be coiled or twisted into numerous shapes. It can be formed to give intermittent or continuous brushing action. It adapts to stationary or power driven applications. How it may help *you* is a matter of your own ingenuity — plus the services of the Fuller Brush Engineering Dept. Find out what Fullergript can do by sending for a sample strip. We will also send a booklet showing its versatility. Simply write today.



Twice the brush life, because of Fullergript's continuous density, is secured on quill strippers — the machines that eliminate hand labor in removing waste thread from textile bobbins and quills.

INDUSTRIAL **Fuller** BRUSH CO. DIVISION

3583 MAIN STREET • HARTFORD 2, CONN.

Power driven brushes, Factory & Institutional cleaning tools, Waxes & Detergents

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If you write maker identify as IEN - 5318

Tough! Flexible! Fire Resistant!

U. S. ROYAL CORDS AND CABLES

For light, power and control applications, United States Rubber Company offers a complete line of electrical conductors, power cables, flexible cords, flexible power cables, signal and communication cables.

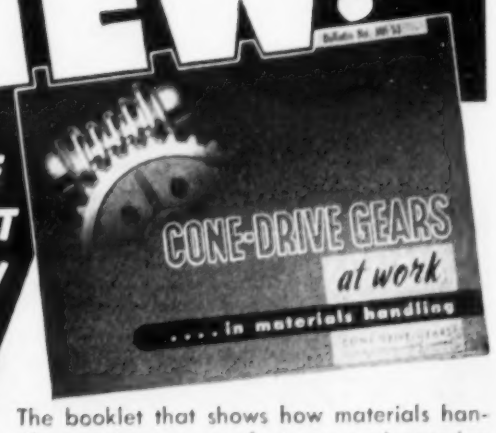
For more information write the nearest U. S. Rubber Branch or the address below.

UNITED STATES RUBBER COMPANY
Electrical Wire and Cable Department, Rockefeller Center, New York 20, N. Y.

If you write maker identify as IEN - 5319

NEW!

WRITE FOR IT TODAY!



The booklet that shows how materials handling equipment manufacturers are increasing gear life, obtaining greater compactness, boosting load transmitting capacity, obtaining greater operating smoothness—

ALL AT NO INCREASE IN COST

By specifying STANDARD Cone-Drive Gears and Speed-Reducers

CONE-DRIVE GEARS *Division Michigan Tool Company*
DOUBLE ENVELOPING GEAR SETS & SPEED REDUCERS
7171 E. McNichols Road • Detroit 12, Michigan

If you write maker identify as IEN - 5320

REALOCK FENCE

means what it says

Realock Fence provides real locked-in protection for your grounds and property. All fittings have bolts placed so that nuts are removable only from the inside ...thereby insuring safety from intruders.

Realock Fence is heavily galvanized by a special process...gives weather-resistant, durable service year after year with little or no expense for maintenance. Expert erection service is conveniently available.

For additional information write our nearest sales office or consult your classified telephone directory.

EAST: Wickwire Spencer Steel Division, Buffalo, New York
WEST: The Colorado Fuel & Iron Corporation, Denver, Colorado
PACIFIC COAST: The California Wire Cloth Corporation, Oakland, California

REALOCK FENCE
THE COLORADO FUEL AND IRON CORPORATION
CF&I
BRANCHES IN ALL KEY CITIES

If you write maker identify as IEN - 5321

CUTTERS

that give you more clean cuts per dollar

Every cutter in the broad Brown & Sharpe line is carefully designed and manufactured to lower your *real* cutter cost . . . give you more smooth, clean cuts per dollar invested. Complete selection of types and sizes to improve milling efficiency on any job. Write for illustrated Catalog. Brown & Sharpe Mfg. Co., Providence 1, R. I., U. S. A.

BUY THROUGH YOUR LOCAL DISTRIBUTOR

Brown & Sharpe

If you write maker identify as IEN - 5322

Automatically

SOUNDS SIGNALS, OPERATES EQUIPMENT ON ACCURATE SCHEDULES

Montgomery PROGRAM CLOCKS & INDUSTRIAL TIMERS

Program clocks for automatic control of signal systems, governing work periods, permitting manual operation for special programs or emergency alarms without affecting accuracy of pe-set schedule.

Industrial timers start and stop equipment automatically to a pre-set schedule. Wide application for shop and laboratory operations. Special timing equipment engineered to your requirements.

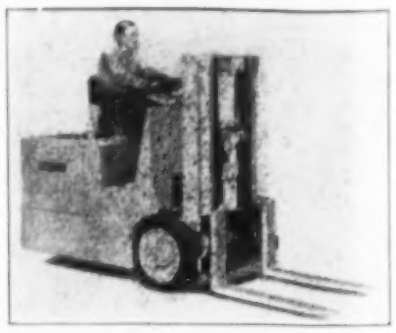
Request free specification and data sheets

MONTGOMERY MANUFACTURING CO., Owensville 8, Ind.
Please send free Industrial Timer data sheets
Name .....
Position ..... Company .....
Address ..... City ..... State .....

If you write maker identify as IEN - 5323

TRUCK . . Electric fork lift unit rates 2 ton, provides 130 in. lift

Source: MERCURY MFG. CO.
4132 S. Halsted St., Chicago 9, Ill.



Battery powered

The operator rides in seated position on this new Model-430 Yak fork truck. The seat connects to parking brakes so the truck is locked unless he is seated. He initiates travel action by a foot operated controller. It provides timed acceleration for four speeds to 6½ mph. Load lift, tilt and lowering actions are by hydraulic pressure controlled at levers on his right-hand side.

Free lift is 58 inches. Outside turning radius is 79 inches. The truck will right-angle stack 36-in. loads in a 10½-ft. aisle. Assembly weight is a little under 8,000 pounds.

Construction includes self-energizing hydraulic brakes, universal joint in the motor connection, detachable drive wheel rim and tire assemblies, compensating caster wheel trail axle.

If you write maker identify as IEN - 5324

TESTING . . Viscosity indicator actuated by element in a solution

Source: NORCROSS CORP.
245-49 Newtonville Ave., Dept. N23, Newton 58, Mass.

Reads in centipoises

New indicator, measuring 7½ in. in diameter, has been added to the company's line of viscosity measuring equipment, previously described IEN-11859-51. The new unit is intended for installations where an indicator is desired to supplement or take the place of a recording instrument. It applies with the same basic element that operates the recorder.

The element consists of a sampling tube immersed in the liquid and a motor driven cam at the top of the tube which alternately raises the plunger and releases it to drop by gravity. Time required for the plunger to drop through the liquid that has been drawn into the tube is a measure of the liquid viscosity. This time interval is transmitted electrically to the indicator which is calibrated to read in centipoises.

Identify as IEN - 5325

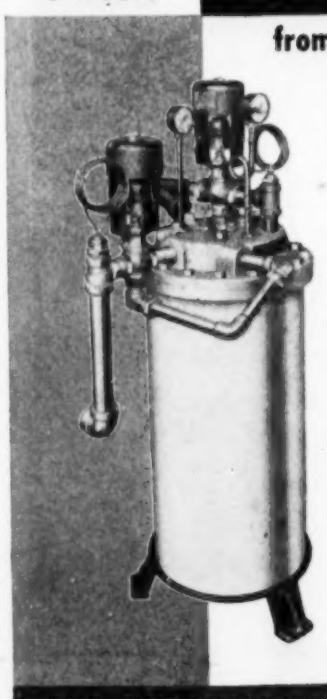
Life expectancy, pressure and maximum stroke are the three variables covered by a new slide rule offered by Clifford Manufacturing Company to help select a bellows best suited for a given job. The calculations apply to the company's bellows designs. The rule is accompanied with a set of layout templates and a table of frequency cycles. List price is $1.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5326

Abundant *Hot Water* AT **Two TEMPERATURES**

from One Compact Heater



Get abundant washroom water regulated at a safe 120° F., or water direct from tank simultaneously for scalding purposes at 160° F. to 180° F.

A "package" unit especially designed to afford uncommon safety and high efficiency. It is delivered completely assembled, tested and adjusted. Simply attach pipes, then turn on water and steam.

The latest development in a compact heater of high quality for industry and institutions.

Write for literature.

COE

THE COE MANUFACTURING COMPANY
504 BANK ST. PAINESVILLE, OHIO

If you write maker identify as IEN - 5327

KRITZER FIN PIPE COILS

- For truly modern heating at lowest cost
- No guesswork about selection
- Installation is simple as ABC
- Sizes, cover styles for every need

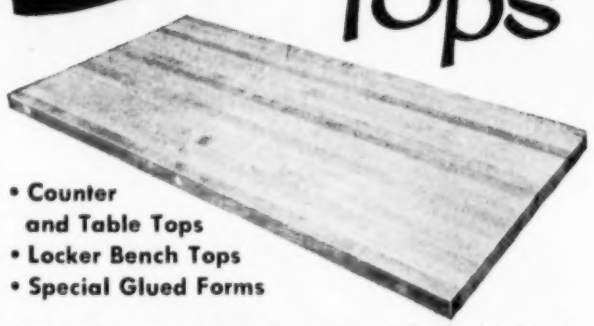
Get the Facts! — Kritzer offers the most complete and authoritative data on finned-pipe heating in the industry. Write for literature.

KRITZER RADIANT COILS, INC.
2901 W. Lawrence Ave., Chicago 25, Ill.

If it's Kritzer, it's right, Sir!!

If you write maker identify as IEN - 5328

HARDWOOD LAMINATED **Bench Tops**



- Counter and Table Tops
- Locker Bench Tops
- Special Glued Forms

FROM the drying of the lumber in Sensenich's own kilns* to the cutting, forming and gluing of every hardwood laminated top, the highly trained Sensenich craftsmen play an important part. These skilled workmen use the finest equipment to produce high quality wood parts with thorough efficiency and economy. Remember too, Sensenich is the world's largest producer of wood propellers for personal planes. Sensenich has more than 20 years experience in conditioning, cutting and gluing wood forms to the most exacting standards.

We will be glad to quote on your requirements . . . your request will receive prompt attention.

SENSENICH

*Certified by the United States Air Force

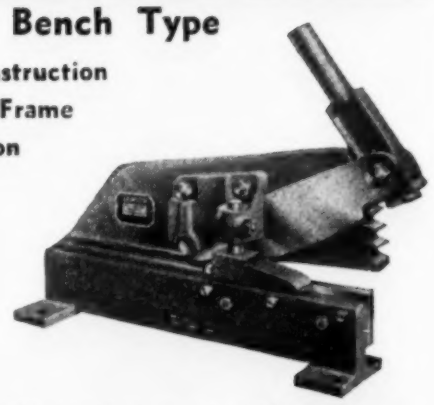
SENSENICH CORPORATION
Dept. IN, Lancaster, Pennsylvania

If you write maker identify as IEN - 5329

SAMSON HAND SHEARS

Bench Type

- All Steel Construction
- Unbreakable Frame
- Easy Operation



IMMEDIATE SHIPMENT

Catalog of Metal Working Equipment furnished on request.

SIZE	No. 3R3	No. 3R4	No. 3R5	No. 3R6	No. 4R10
Cuts sheet or plate up to	14 ga.	3/16"	3/16"	1/4"	5/16"
PRICE	$16.25	$23.75	$31.70	$67.00	$115.70

f.o.b. New York, prices subject to change

JULIUS BLUM & CO., Inc.
Established 1910
540A West 22nd St., New York 11 • WAtkins 9-7042

If you write maker identify as IEN - 5330

WHENEVER A BLOW IS REQUIRED . . .

consider lightning-fast

ELECTROPUNCH

Whenever your production process demands a blow, ELECTROPUNCH may be just the machine you need. This all-electric impact hammer delivers a lightning-fast *controllable blow.* Produces up to 10,000 pieces per hour with automatic switching — as high as 5,000 pieces per hr. with hand or foot switching. Ideal for steel stamping, swaging, etc.

ELECTROPUNCH is portable, uses only one sq. ft. of bench space, plugs into any 115 V., A.C. outlet. Lightest model (illustrated) sells for only $90.75.

Write for descriptive folder.

BLACK & WEBSTER, INC.
Dept. 17, 445 Watertown St., Newton 58, Mass.
Phone: Frank Webster Bigelow 4-6370

If you write maker identify as IEN - 5331

JIG GRINDING ACCURACY *guaranteed**

INFINITE CONTROLLED SPEEDS
30,000 TO 65,000 R. P. M.

Easily connect jig grinder to jig borer or mill

Then you can finish grind in hardened steel to "tenths" . . . jig grind dowel holes square with a ground base . . . move location of holes in hardened steel blocks . . . jig grind interchangeable holes in hardened sections . . . grind small holes with diamond impregnated mandrels . . . grind contours and relief with tungsten carbide burrs . . . grind radii in die sections . . . eliminate jig bushings in tools where close spacing is essential.

Other infinitely controlled air driven spindle applications

Place spindle on most any machine. Use it for finishing contours on hardened steel working surfaces . . . burring or milling die castings . . . routing wood contours . . . carbide milling or finishing slots . . . finishing holes in hardened steel to "tenths" . . . grinding with diamond wheels, carbide burrs, or diamond impregnated mandrels.

Advantages—10 micro finishes using carbide mills . . . 6 micro finishes using mounted points, operates at any angle . . . air driven, air cooled, overheating prevented . . . speed controlled at optimum point . . . 3⅝" long motor uses little working space . . . By controlling speed at any point you abolish need for many constant speed spindles.

For immediate quotation please state machine tool application. Get this manual of photos showing operations Vulcanaire performs.

*Dependably accurate to "tenths"

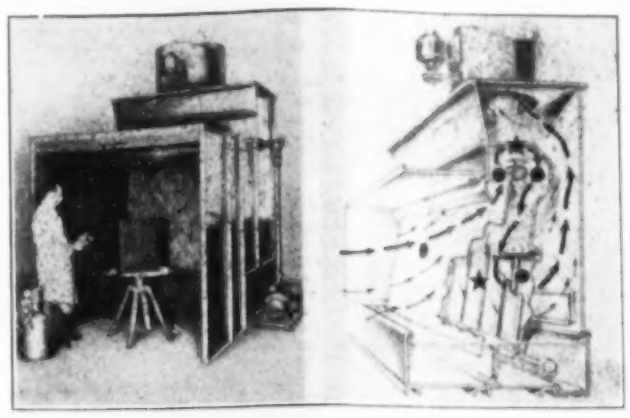
Vulcanaire
BUILT BY TOOLMAKERS FOR TOOLMAKERS

VULCAN TOOL CO. 734 LORAIN ST., DAYTON 10, OHIO

If you write maker identify as IEN - 5333

PAINTING . . Water wash booth for work handled on bench or conveyor

Source: BINKS MFG. CO.
3112 Carroll Ave., Chicago 12, Ill.



Illustrated details in Bulletin DUC

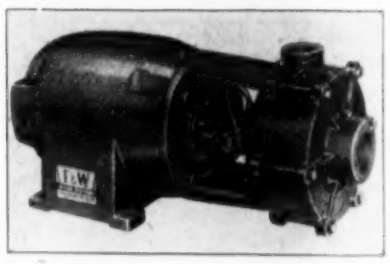
Ventilating air is drawn in through the front of this new Dynaprecipitor water wash spray booth by a motor driven blower mounted in the exhaust stack at the rear. The air, entrained paint and moisture travel upward, turn abruptly downward, reverse again to move upward to the stack. Paint particles are thrown out by centrifugal force in addition to the washing action. Moisture is eliminated in passage through a series of staggered baffles in the lower portion of the rear curtain.

The booth provides quick access for inspection and cleaning. The curtains can be removed by hand. The tank forming the base of the unit can be drained completely. Sizes range from 4 to 20 ft. in face width and from 7 to 10 ft. in height. The company is prepared to supply air intake equipment that provides conditioned air to replace that exhausted.

If you write maker identify as IEN - 5334

PUMP . . Motor mounted centrifugal 60 to 120 gpm., head to 80 pounds

Source: FLINT & WALLING MFG. CO.
123 Oak St., Kendallville, Ind.



Ask for Catalog 210

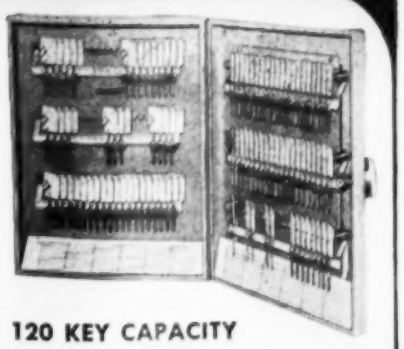
Two-stage design is illustrated in the company's new single and two-stage assemblies of pump and integral 1½ to 7½-hp. motor. The pump is available in single-stage design with rating at 60 to 110 gpm. against a 15-ft. suction head and a 20-lb. delivery. It is supplied in two-stage design for 70 to 110 gpm. under the same suction and pressure conditions.

Construction includes an enclosed brass impeller, replaceable bronze wear rings, stuffing box and standard packing or a rotary seal, slinger washer, threaded drain pocket, stainless steel shaft sleeve, cast iron housing and a bracket that face mounts on the standard motor. Inlet ranges from 2 to 2½ inches. Outlet is 1½ inches. Weight is from 102 to 213 pounds. Dimensions are 19 by 8½ by 7 in. to 35 by 15 by 21 in. for the available range of sizes.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5335

STOP
HUNTING FOR KEYS



120 KEY CAPACITY

Here's real "key insurance" in a compact KE-CABINET. Made of 20 gauge cold rolled steel with suitable hardware to provide maximum key security. Equipped with numbered KE-TAGS of durable, vulcanized fibre. KE-CABINETS come in two sizes to hold 60 to 120 keys and 100 to 200 keys. The cabinet is finished in modern office grey.

For further information write
CUSHMAN & DENISON MFG. CO.
153 West 23rd St. • New York 11, N. Y.

KE-CABINET

If you write maker identify as IEN - 5336

G-E·CAPACITORS SAVE
$1800 Yearly On Power Costs

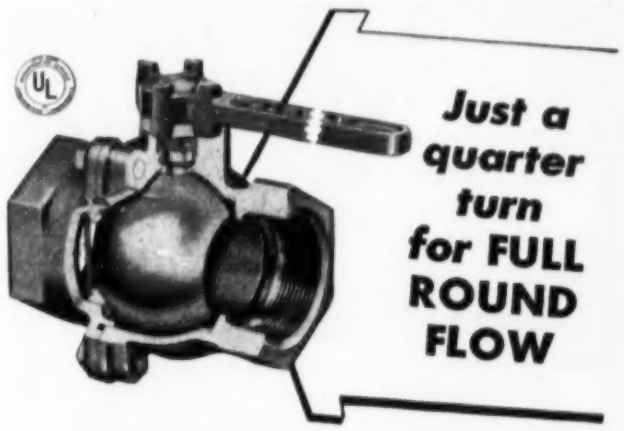
By improving power factor with General Electric capacitors, the Montrose Chemical Corp. of California located in Los Angeles saves $1800 a year on its electric power costs. These power bill savings paid for the capacitors in less than 10 months . . . and the $1800 yearly savings will go on indefinitely.

YOU TOO CAN SAVE with G-E capacitors if your power factor is less than unity and if you have a power-factor or kva-demand clause in your contract.

Capacitors also offer other benefits. They often permit you to handle 20 to 30% more load on your existing system. They reduce losses by reducing line current. These added benefits often make capacitors a worthwhile investment even when no power-factor or kva-demand clause is in effect. For more information, see your local G-E representative. Or write for Booklet GEA-5632. Address Section 441-101, General Electric Co., Schenectady 5, New York.

GENERAL ELECTRIC

If you write maker identify as IEN - 5337



Dependability and efficiency are the reasons why Rockwood Ball Valves are in a class by themselves.

A quarter turn opens the ball valve for full, *round* flow — liquids follow the natural course of flow without halt or turbulence. Another quarter turn and the floating bronze ball, combined with the synthetic rubber seat, forms a leakproof seal. Chrome-plating of bronze ball prevents scratching, pitting and abrasion.

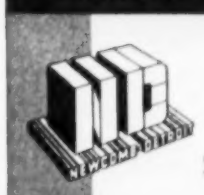
For use in oil refineries, food, textile, chemical and rubber plants, etc. Tested by Underwriters' Laboratories, Inc. For further details, send for free Bulletin V-4. Rockwood Sprinkler Company, 40 Harlow Street, Worcester 5, Mass. Distributors in all principal cities.

ROCKWOOD BALL VALVES
THE FLOW IS AS ROUND AS THE PIPE ITSELF

If you write maker identify as IEN - 5338

NEWCOMB-DETROIT

PIONEERS IN ENGINEERING, MANUFACTURING & INSTALLING OF

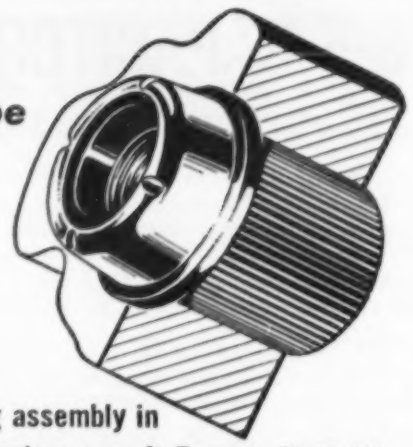


INDUSTRIAL OVENS
•
SPRAY BOOTHS
•
PARTS WASHERS
•
DUST COLLECTORS
•
HEAT and AIR SYSTEMS

ESTABLISHED 1912
• DETROIT DIVISION
• GRAND RAPIDS DIVISION
• NEWCOMB INDUSTRIES, LTD. WINDSOR DIVISION

For Bulletins and Quotations, Wire, Write or Call —
NEWCOMB-DETROIT
5757 Russell St., Detroit 11, Mich.
TR 3-2100

If you write maker identify as IEN - 5339



spline-type ELASTIC STOP nuts

for self-broaching assembly in Aluminum, Magnesium or soft Ferrous Materials

- Driven into pre-formed or drilled holes, spline nuts broach a tight grip into the casting.
- Thread-tapping problems are avoided; the nut becomes a threaded steel insert as well as a fastener.
- Spline nuts remain permanently in place . . . save production and assembly time.
- **WRITE FOR** design information on self-locking, vibration-proof Spline Nuts and other standard ESNA fasteners. Address Dept. N37-553.

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, N. J.

DESIGN HEADQUARTERS FOR SELF-LOCKING FASTENERS

If you write maker identify as IEN - 5340

FOSTORIA LOCALITES

Directs light exactly as needed as easily as pointing your finger

for Machine Tools, Assembly and Inspection Benches

NEARLY A MILLION NOW IN USE

MODEL 3470-P-172
Overall length 48¼". Three instantly adjustable joints. Circular base for machine or wood screw mounting.

$7.16 EACH in package of 6
Single Units $8.95 Each

- **Rugged Construction** withstands vibration and rough handling
- **Instantly Adjustable** with flexible ball and socket joints
- **Reflector** accommodates 100 watt or any A-19 or A-21 medium screw base lamp
- **Baked Enamel Finish** — Exterior, smooth Gray — Reflector Interior, high temperature White
- **Wired Complete** with switch socket and 8-ft. oil-resistant cord and moulded plug

LOCALITE fostoria for Light ON the Job

Write for complete catalog of Localite models with various type reflectors, arms and bases for every industrial use.

THE FOSTORIA PRESSED STEEL CORPORATION
FOSTORIA, OHIO
Localites available through wholesalers everywhere

If you write maker identify as IEN - 5341

MEASURE RPM

as low as 2/100 of 1 RPM
as high as 100,000 RPM
with Improved
JAQUET SPEED INDICATOR

a Chronometric Tachometer of highest accuracy and dependability

4 MODELS
0-200 RPM
0-2,000 RPM
0-20,000 RPM
0-100,000 RPM
measuring also FPM WITH WHEEL TIP

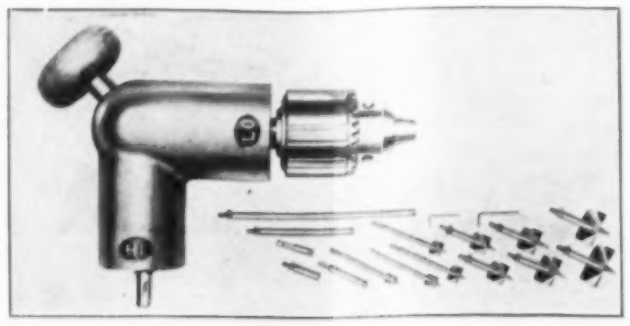
SEND FOR BULLETIN 735

HERMAN H. STICHT CO., INC. 37 PARK PLACE, NEW YORK 7, N. Y.
Tachometer Headquarters

If you write maker identify as IEN - 5342

WOODWORKING . . Drill attachment and bits for holes to 2-9/16 inches

Source: R.C.S. TOOL SALES CORP.
23-27 N. Ottawa St., Joliet, Ill.



The bits cut freely

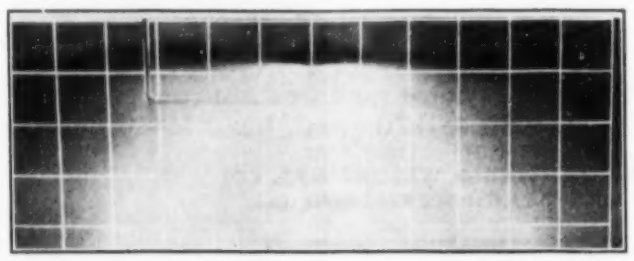
Korner King is a new angle type attachment head. It is used with a ¼-in. portable electric drill to drive a new design of wood-working cutter bit, either direct or on the end of an extension. The head reduces the drill spindle speed in a ratio of 2 to 1. The ¼-in. portable tool can drill 2 9/16 in. through hard wood without difficulty.

The set consists of the head, a set of ten bits ranging from ⅝ to 2 9/16 in. in diameter and a set of extensions with the necessary Allen wrenches.

If you write maker identify as IEN - 5343

EXTINGUISHING . . Sprinkler head delivers uniform wide spray pattern

Source: GRINNELL CO.
277 W. Exchange St., Providence 1, R. I.



Listed by Underwriters' Laboratories, Inc.

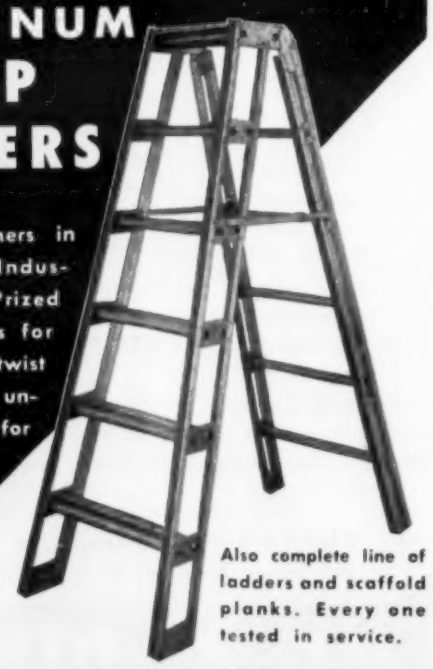
New design of the deflector in the company's line of sprinkler heads directs all of the water to the sides and downward so none reaches the ceiling. At the same time the deflector breaks the water into fine droplets for distribution in the wide evenly filled pattern. The new unit is particularly suited to extinguish fires in fast burning materials, flammable liquids and materials with flash fire characteristics. It provides for quick dissipation of heat through the action of the fine droplets. It thoroughly and quickly wets down any materials within its range of action.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

Additional product information in New Literature—see page 82

If you write maker identify as IEN - 5344

HEAVY DUTY ALUMINUM STEP LADDERS



Proven performers in all types of Industrial plants. Prized by Contractors for resistance to twist or wobble. An unexcelled value for heavy service.

Also complete line of ladders and scaffold planks. Every one tested in service.

LOUISVILLE LADDER COMPANY
1101 W. Oak St. — Dept. 8A — Louisville 10, Ky.

If you write maker identify as IEN - 5345

NEW MAGNA BIT HOLDER

A REVOLUTIONARY, LABOR SAVING TOOL. CUTS SCREW DRIVING COSTS 3 NEW WAYS

Hand starting or *pre-positioning screws* in assembly operations is *no longer necessary*; a high energy *permanent* magnet in bit chuck holds the bit and energizes it with 10 times the "pull" to hold the screw *firmly* on bit. Labor costs are cut.

Reduces bit costs through the use of super hard, low-cost interchangeable insert bits.

Reduces bit wear and replacement since the energized bit seats itself positively in the screw slot or recess.

Bit holders available for all makes of power and spiral drivers. Also super hardened tool steel insert bits for all types and sizes of screws.

Permanently Magnetic Magna-Tip Hand Screw Drivers . . . bits for all types and sizes of screws
and Magna-Tip Hex Drivers for hex head screws

U. S. Patent No. 2,550,775

Write for Folder 60-E, information and prices

MAGNA DRIVER CORP.
779 Washington St. Buffalo 3, N. Y.

If you write maker identify as IEN - 5346

KOOLVENT Ventilated Aluminum AWNINGS

Added beauty, utility, protection for all buildings . . . extra comfort for building occupants!

Made of lifetime aluminum, KoolVents will last as long as the building on which they're installed. They eliminate the expense of putting up, taking down and storing awnings each year . . . provide year 'round service that pays for itself. Choice of colors!

Write today for FREE booklet—"Koolvent Serves Industry"

KOOLVENT Metal Awning Corporation of America
KEYSTONE BLDG., PITTSBURGH 22, PA.

If you write maker identify as IEN - 5347

Conductive Bootie safely disperses static stored in human body

Worn comfortably over ordinary shoes, the LEGGE Conductive Bootie drains dangerous body currents from skin to floor.

Lightweight, easy to wear, easy to store. Laundered after each wearing so it need not be individually assigned. Conductive elements cannot be washed out. Effective on every type conductive floor. Conforms with NFPA Code #56.

COSTS ONLY $5.75 PER PAIR

The Bootie comes in 4 sizes: **Medium Male** fits men's shoes up to size **9; Large Male,** sizes **10-13; Medium Female,** sizes **3-6; Large Female,** sizes **7-10.** Costs less than half as much as most conductive shoes with none of the bother. ORDER NOW! **$5.75 pr.** Or write today for full information. Walter G. LEGGE Company, Inc., Dept. EN-5, 101 Park Ave., New York 17, N. Y. Branch offices in principal cities.

YOU'RE SAFE WHEN YOU HAVE LEGGE TO STAND ON

LEGGE SYSTEM of Safety Floor Maintenance

If you write maker identify as IEN - 5348

3 QUICK FACTS Tell How You Can Finish Any Metal BETTER for LESS

If you want to do a better job of metal-finishing, and *save money doing it*, VINSYNITE can help you. Here's how:

1. Vinsynite is applied simply, by brush, spray or dip. It involves only one step, requires no chemical control, no heating, no special equipment.

2. Vinsynite is versatile. It performs successfully on any metal. Even if your product is made from several different metals, it can be painted *after* parts are assembled.

3. Vinsynite outperforms other coatings in adherence and corrosion-resistance. Forms a perfect base for any types of top coats.

Regardless of what you finish, Vinsynite can help you finish it *better* for *less*. Send for free booklet and specific test data.

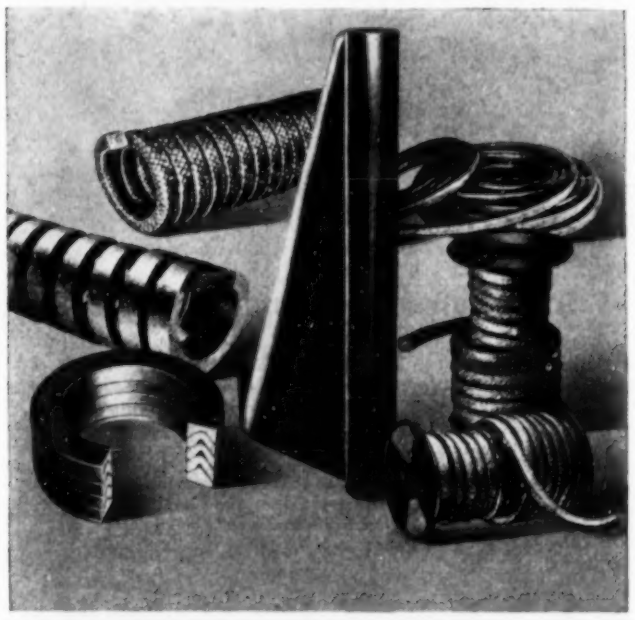
Test specimen of steel tubing. Under severe distortion both Vinsynite and Vinyl top coat are unaffected.

SPECIALTY COATINGS, INC., Division of THOMPSON & COMPANY
1000 Allegheny Avenue Oakmont, Pa.

Vinsynite
COMBINES PROTECTION AND ECONOMY

If you write maker identify as IEN - 5349

HERE'S PACKING NEWS!



95% of all packing needs are met with R/M's BIG 7

If you've thought you had to carry 10, 20, 50 different types of packings, forget it! Your plant probably needs only 3 or 4. R/M now has a basic line of *just seven* types of field-tested packings engineered to give custom-built performance in 95 percent of all applications. We call them the "Big 7" R/M Packing Types. To accomplish this engineering feat, R/M called into play 50 years of know-how and experience, and all of the research, testing and production facilities of its seven great plants. Exhaustive field testing has proved that all but the very rarest packing application can now be met by the "Big 7" R/M Packing Types. Standardize on R/M Packings. You'll lower inventories, simplify ordering, reduce downtime. For details, see your R/M distributor.

R M **PACKINGS**
RAYBESTOS-MANHATTAN, INC.
PACKING DIVISION, MANHEIM, PA.

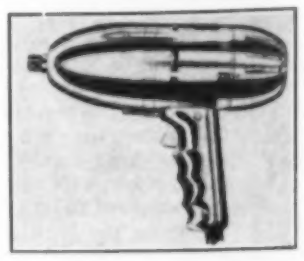
FACTORIES: Bridgeport, Conn. • Manheim, Pa. • No. Charleston, S.C. Passaic, N.J. • Neenah, Wis. • Crawfordsville, Ind. Peterborough, Ontario, Canada

RAYBESTOS-MANHATTAN, INC., Manufacturers of Packings • Teflon Products • Asbestos Textiles • Industrial Rubber Products • Abrasive and Diamond Wheels • Rubber Covered Equipment • Brake Linings Brake Blocks • Clutch Facings • Fan Belts • Radiator Hose Sintered Metal Products • Bowling Balls

If you write maker identify as IEN - 5351

WRENCH . . Electric impact tool for use in nut driving, to 5/8 inch

Source: SYNTRON CO.
410 Lexington Ave., Homer City, Pa.



Square socket drive

The company announces addition of a new electric impact wrench to its line of portable tools. It is characterized by rapidly recurring impact action in which 2,000 sharp blows per min. are struck, after sufficient resistance to turning has been set up to stop steady rotation.

Reverse or direct motion is set by turning a knob at the rear of the housing. Drive is by a square nose end which fits a standard socket. The tool weighs 6¾ pounds. It is driven by a universal motor for operation on 110-volt input. Accessory sockets, bits, chuck adaptors are available for the new tool.

If you write maker identify as IEN - 5352

METAL TREATING . . Liquid forms phosphate paint base on steel

Source: OAKITE PRODUCTS INC.
116-A Rector St., New York 6, N. Y.

Company offers expert help

CrysCoat HC is a new liquid for solution in water to apply in a dip tank or a spray washing machine on iron and steel work pieces. Application results in a complex zinc phosphate coating, crystalline in nature. It makes an excellent base for subsequent painting. Either method meets Government specification requirements.

Dip procedure calls for five tanks to clean the work, hot rinse it, apply the new liquid, cold rinse and final rinse at 160 deg. F. with a small per cent of chromic acid in the rinse water. The tank holding the new liquid can be made of mild steel or stainless. Temperature is held at 180 to 210 deg. F.

If you write maker identify as IEN - 5353

PIPE FITTING . . Jacketed intake for roof drain prevents freezing

Source: J. A. ZURN MFG. CO.
1803 Pittsburgh Ave., Erie, Pa.

For free flow

Snow and ice cannot gather on this new jacketed roof drain when it is connected to a steam line to supply the jacket at 15 pounds. The steam travels through the chamber around the intake and is vented on the opposite side. The fitting itself is designed to carry off heavy surges of water. It is fitted with a mushroom type strainer and gravel guard. The fitting is made of Dura-Coated cast iron, galvanized cast iron or bronze for prefabricated steel decks, wood, concrete or other roof constructions.

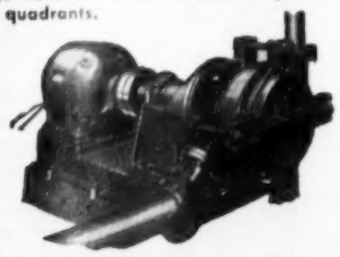
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5354

Only the New TYPE "R" MORRIS SLURRY PUMP *has these 4 features*

1. Gland is under suction pressure only. This feature practically eliminates packing troubles.
2. For dismantling, you need remove only four bolts. No internal studs or bolts . . . no troublesome fits or joints.
3. You can remove impeller and liner without disturbing piping.
4. Shell interchangeable for right or left-hand rotation. Suction and discharge nozzles can be rotated to positions in any of four quadrants.

The New Type "R" Morris Slurry Pump handles caustic or acid mixtures containing abrasives or solids; also ore concentrates, tailings, slag, residue from filters and classifiers.



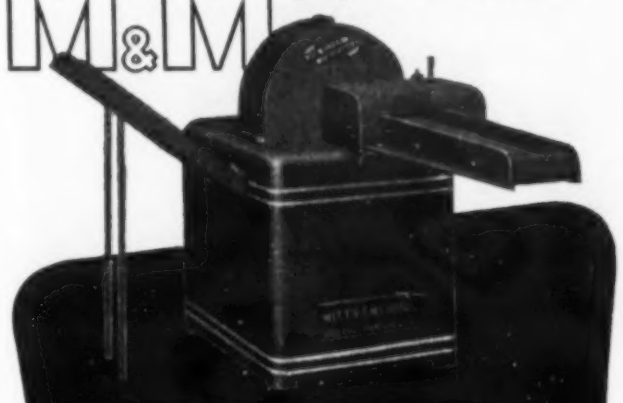
Write for specifications and operation data on pumps best suited to your particular needs. No charge or obligation.

MORRIS MACHINE WORKS
Baldwinsville, N. Y.
Sales Offices in Principal Cities

MORRIS CENTRIFUGAL PUMPS

If you write maker identify as IEN - 5355

M&M air fluff paper shredder



The Air-Fluff Paper Shredder is used for the commercial manufacture of paper excelsior. Also speedily, safely and efficiently destroys blueprints, letters and confidential records. Built in 3 sizes ranging in capacity from 200 to 2500 pounds per hour. Each machine can be adjusted to cut widths of 1/8", 3/16", 1/4", or 3/8". Write for descriptive literature.

mitts & merrill
1014 South Water • SAGINAW, MICHIGAN

If you write maker identify as IEN - 5356

QUALITY DRI-SEAL PIPE PLUGS

A dependable source for Dri-Seal Pipe plugs. Most sizes shipped from stock. Prices available on any size or quantity.

Write to...

LISLE *Corporation*
CLARINDA, IOWA
Makers of LISLE Magnetic Plugs

If you write maker identify as IEN - 5357

CALL

Your steel requirements get prompt personal attention at Ryerson. Some kinds and sizes in short supply; so use Gov't. ratings when they apply. We'll do our best to help.

RYERSON

PRINCIPAL PRODUCTS:
Bars • Structurals • Plates • Sheets • Tubing
Allegheny Stainless • Alloy Steel
Inland 4-Way Safety Plate • Babbitt
Metal Working Machinery & Tools, etc.

FOR STEEL

JOSEPH T. RYERSON & SON, Inc.
Plants at: New York, Boston, Philadelphia, Detroit, Cincinnati, Cleveland, Pittsburgh, Buffalo, Chicago, Milwaukee, St. Louis, Seattle, Spokane, Los Angeles, San Francisco

If you write maker identify as **IEN - 5358**

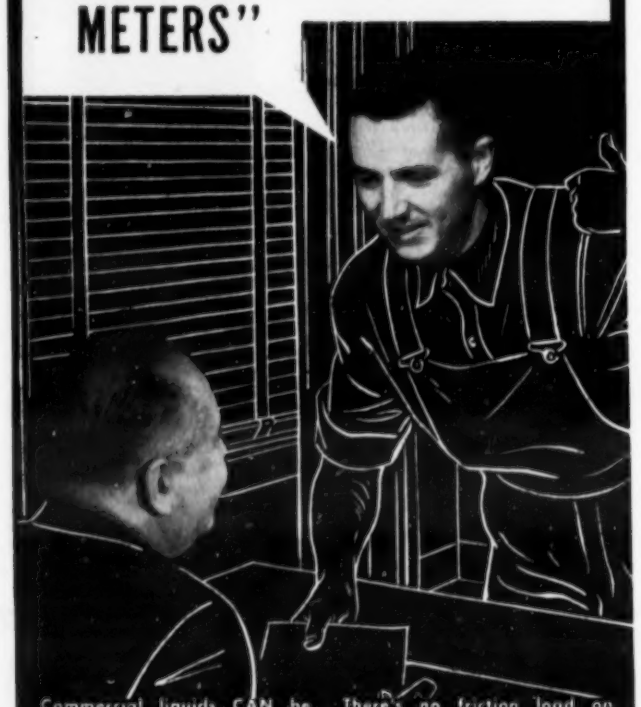
THE *Mathews* line of belt conveyers is complete. Standardized general purpose units are immediately available. In special belt conveyer applications, rely on the experience of *Mathews Engineers*. In belt conveyers, you'll find that you get more for your money when you buy *Mathews*.

MATHEWS CONVEYERS

GENERAL OFFICES: *Mathews Conveyer Company, Ellwood City, Pennsylvania*
PACIFIC COAST DIV.: *Mathews Conveyer Co. West Coast, San Carlos, Calif.*
CANADIAN DIVISION: *Mathews Conveyer Company, Ltd., Port Hope, Ontario*

If you write maker identify as **IEN - 5359**

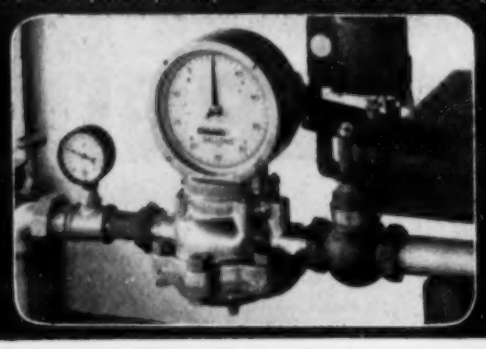
"I save time and get better accuracy in our liquid measurements with NIAGARA Electricontact METERS"



Commercial liquids CAN be measured quickly, simply and positively. NIAGARA Electricontact METERS assure accurate measurements through automatic control. The meter actuates a solenoid valve to stop the flow of liquid after delivery of the preset quantity.

There's no friction load on the meter. NIAGARA METERS replace obsolete tanks and gauge sticks with a sure method of precise measurement.

Send in the Data Request blank below . . . today.



BUFFALO METER CO.
2893 MAIN STREET BUFFALO, N. Y.

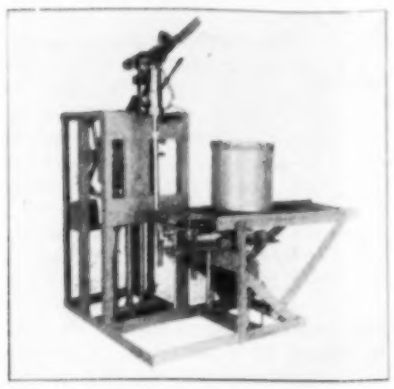
Gentlemen:
Please send me complete information on the use of economical NIAGARA METERS, based on the data below:

Liquid _____ Pressure _____ p.s.i.
Temp. _____ F
Flow rate _____ g.p.m.
Maximum batch _____ gals.
Name _____
Company _____
Address _____

If you write maker identify as **IEN - 5361**

PACKAGING . . Filling machine to handle liquids that tend to foam

Source: CRANDALL CAN FILLER MACHINE CO.
1389 Niagara St., Buffalo 13, N. Y.



Nozzle rises with liquid

Type F is a new assembly in the company's line of machines to fill liquids into containers by weight. This particular unit keeps its nozzle immersed about ½ in. under the liquid level, as the container fills, so foaming will not occur and there will be no vapor loss. The long filling nozzle goes down into the container to start the action and rises with the filling head as the liquid level rises. When the container has been filled, the weighing scale cuts off further flow and the nozzle comes out without drip.

The machine is available in a range of sizes with nozzles measuring 3/16 to 1½ in. for containers holding from 4 oz. to 110 gallons. Fill accuracy is within 0.1 oz. on 1-qt. containers to 2 oz. on 55-gal. drums. Floor space, for the assembly shown, is 47 by 38 in. in overall dimensions.

If you write maker identify as **IEN - 5362**

TESTING . . Electric meter to read current, resistance, voltage

Source: MARTINDALE ELECTRIC CO.
1353 Hird Ave., Cleveland 7, Ohio

For plant or field use

Model 52 is a new multiple range meter with a selector switch to read ac. volts, dc. volts, ohms and amperes. It employs two pair of sockets to plug in test leads. These are furnished in 4-ft. lengths with prods and clips. Assembly is in a housing that measures 8⅜ by 5¾ by 2½ inches. The dial is a 5-in. unit and is covered with chip-proof lucite. The meter is available in a Neolite case at a list price with the case of $61.

Four test ranges read ac. and dc. from 0 to 10 to 50 to 250 to 1,000 volts. Current range is 0 to 2.5 amp. ac. only, 0 to 10 amp. dc. only. Resistance is in four ranges from 0 to 1,000 to 10,000 ohms and 0 to 1 to 100 megohms.

Identify as **IEN - 5363**

There's no bang when you replace a manhole cover if you equip the seating flange with Joseph G. Pollard's Tapax cushioning strip. It is made of asbestos and woven bronze with impregnated adhesive. It clings to the seating flange, cushions the cover, makes a weatherproof joint.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 5364**

FOR PHENOMENAL SAVINGS IN PLANT LAYOUT

FROM LAYOUT TO BLUEPRINT WITH NO DRAFTING

TemPrints are outline prints on transparent film, reproducing to exact scale the standard machines in your plant or made to engineering specifications of your particular equipment . . . TemPrints are also supplied for walls, partitions, windows, office furniture and shipping equipment.

TemPrint Grids are transparent sheets cross-lined to ¼" scale suitable for layout and floor plans.

When TemPrints are cutout and applied to the grids, the result is an accurate layout of your plant or office. Any number of duplicate prints accurately reproduced in the same size may then be made by processing through an Ozalid machine.

SIMPLY MAKE THE LAYOUT — AND THE LAYOUT WILL MAKE YOUR PRINTS
TEMPRINTS PUT THE PLAN INTO YOUR PLANT

MARINE SCALE INDUSTRIAL MODELS

Marine has specialized in scale models for many years. Marine Miniatures are accurate reproductions to scale of well-known plant machinery and equipment. All models are dimensionally accurate — may be identified instantly. A special catalog is available on request.

SEND FOR COMPLETE ILLUSTRATED CATALOG TODAY!

HARMAN ASSOCIATES
Dept. H-3, Halesite, L. I., N. Y.

If you write maker identify as **IEN - 5365**

NEW

SWEEPS FAST, exceeding 100,000 sq. ft. per hr.
DUMPS MECHANICALLY in less than 24 seconds.
MORE MANEUVERABLE. Turns in only 60" radius.
PICKS UP bulky debris as well as dirt, dust.

...and built for YEARS of service!

Rugged NEW "Model 75" reverses instantly; is built for heavy duty work. Also in smaller models.

TENNANT

Model 75 Power Sweeper

Pays for itself in about 90 days . . . and is built for years of tough round-the-clock sweeping. Drives like a car; has exclusive instant reverse feature, automotive steering, mechanical dumping. Covers 48" path (with sidebrush). *Write for details!*

G. H. TENNANT CO.
2574 N. 2nd St., Minneapolis 11, Minn.

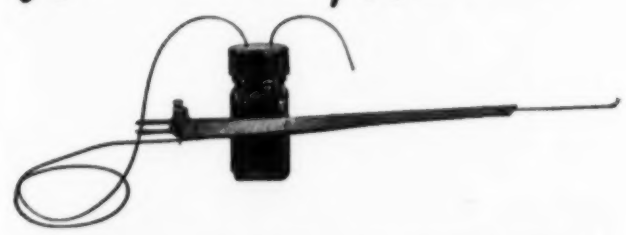
TENNANT Established 1870

INDUSTRIAL FLOOR MACHINES
OFFICES IN PRINCIPAL CITIES

If you write maker identify as **IEN - 5366**

ARCCO *NEVER-DRY* PEN

Writes for Months



REPLACES OTHER MAKES • USES REGULAR INKS

Regardless of pulsations or other causes of ink failures this new Never-Dry Pen will make clean and complete records. Ink supply lasts for several months without refilling reservoir. Capillary tube from ink bottle placed in instrument case feeds pen with continuous flow. Closed system sealed from atmosphere prevents clogging and dirt accumulation.

Weight of pen is constant at all times thus insuring extreme accuracy. No slopping or dripping. Stainless steel construction—no corrosion. When ordering, specify make and type of recording instrument.

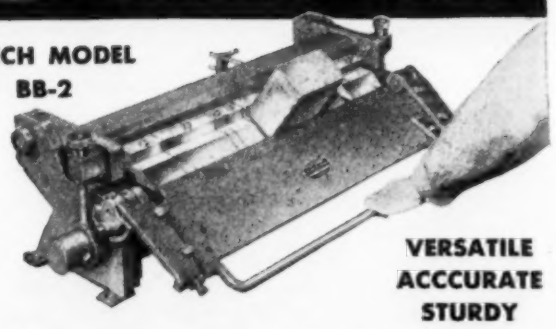
AMERICAN RECORDING CHART CO.
3113 E. 11th St. • Los Angeles 23, Calif.

$6.00 each Net
Send for quantity prices

If you write maker identify as **IEN - 5367**

Bending Sheet Metal
UNIVERSAL BOX and PAN
CHICAGO BENDING BRAKE

BENCH MODEL BB-2



VERSATILE
ACCCURATE
STURDY

This CHICAGO hand bending brake is ideal for bending sheet metal up to 18 gauge and 24" wide. Model and experimental shops, production departments find this machine unmatched for single pieces or production runs in folding, box and pan work, and a limitless variety of straight bending operations. Very little experience is required to do accurate and fast work.

Write for full particulars

Steel Bending Brakes for over 50 Years

4424

DREIS & KRUMP MANUFACTURING COMPANY
7448 S. Loomis Blvd., Chicago 36, Ill.
CHICAGO STEEL BENDING BRAKES BOX and PAN BRAKES PRESS BRAKES

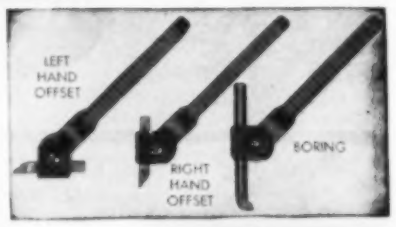
If you write maker identify as IEN - 5368

WALTON-AMERICAN Tool Holders

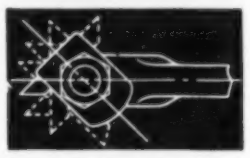
Hold with a perfect grip, tool bits, or boring bars in all sizes from ⅛" to 7/16", square or round. Besides gripping the tool securely top and bottom, it is held so that no lateral motion is possible.

VERSATILE MULTI-POSITION

The Walton-Americans are adjustable to bit size, and to any cutting position. All changes may be made at the machine without additional heads or set screws.



One Walton-American can be used in straight and right or left hand offset positions, or any other position around an entire circle (see illustration). Economy is doubly assured for very short bits may be used, and jaws will not break high speed steel or Stellite bits.



OTHER WALTON PRODUCTS — The well known *Walton Tap Extractor* for removing broken taps; and *Reps Pipe and Stud Extractor* for removing broken pipes, studs and screws (a product of Walton's affiliate, Reps Tool Company, Inc.).

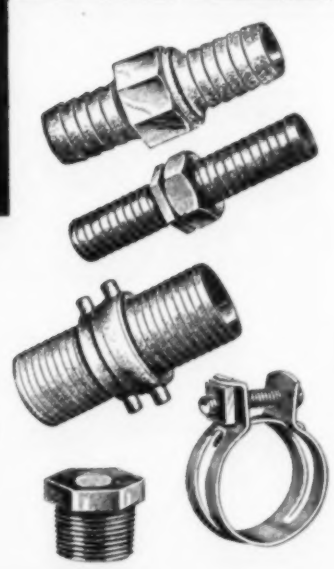
Send for complete catalog No. 15 of all Walton Tools.

THE WALTON COMPANY
HARTFORD 10 • CONNECTICUT

If you write maker identify as IEN - 5369

Whatever *you want in* Hose Fittings— *your best bet is* ALLENCO

NEW INSTALLATIONS • ADDITIONS • REPLACEMENTS



Clamps
Couplings
Nozzles
Fusible Plugs
Valves, etc.

ALLENCO

Proved by Performance
in thousands of installations

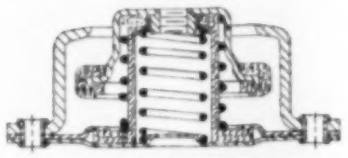
***also First in Interior Fire Protection*

Established 1887
W. D. ALLEN Manufacturing Co.
CHICAGO 6 • NEW YORK 7

If you write maker identify as IEN - 5371

ISOLATING . . Vibration insulator for airborne electronic equipment

Source: BARRY CORP.
838 Pleasant St., Watertown 72, Mass.



¼ to 40 lb. per unit

Electronic apparatus such as radio, radar, loran, to be installed in an airplane, can be mounted on this new insulating unit. It protects against normal vibration in the plane and also against shock that may be incurred in forced landing. Two types are included in the new line. They are known as No. 7630 and No. 7640. They meet specifications for JAN cup-type Size 1 and Size 2 respectively.

The wire mesh construction now is supplemented with two springs that return the load carrying plunger to its normal position after each cycle. This action prevents packing the mesh isolating element and assures free operation.

If you write maker identify as IEN - 5372

FOUNDRIES . . Heat exchanger and dust collector for use on cupola

Source: GRINDLE CORP.
16229-233 S. Turner Ave., Markham, Ill.

Hot Blast Bulletin upon request

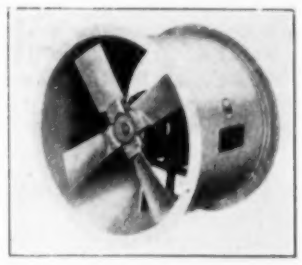
New equipment has been developed, under the trade name Hot Blast, to recover waste heat from a foundry cupola and employ it to heat the incoming air. At the same time the equipment extends through a dust collector to remove both coarse and fine particles of dust from the cupola exhaust. The company can supply equipment for given installations.

Based on 600 deg. F. of blast air preheat, savings can be made of 15 to 20 per cent in coke, 5 to 10 per cent in holding furnace fuel, 15 to 20 per cent in limestone and about 2 cents per ton of melt in reduced silicon loss. Overall operating costs are about 13 cents per ton of melt.

If you write maker identify as IEN - 5373

VENTILATING . . Duct mounted fan for exhaust, 16 to 48 in. diameter

Source: CHELSEA FAN & BLOWER CO.
637-41 South Ave., Plainfield, N. J.



Ask for Bulletin 503

Ball bearing motor, totally enclosed design, is centrally mounted in a steel duct section in this new ventilating fan assembly. The impeller is secured on the motor shaft. Blades are made of aluminum in a pitch design that will not overload under any condition.

Standard construction is suited for operation to 110 deg. F. Air handling capacity is 2,900 to 37,500 cfm. Type PLFX mounts the motor in the duct as illustrated. Type PLDX places the motor outside the duct and connects it with a belt.

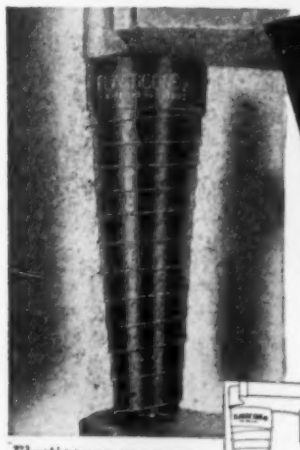
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5374

IT'S SAFETY FIRST!

For Man, Machine and Production

with ELASTICONE **GUIDE PIN COVERS**



Protect Pins and Bushings from nicks and scratches . . . prevent injuries to Die Setters and Operators with Elasticone Guide Pin Covers.

Elasticones are manufactured in stock sizes. Specify O.D. of bushing and full open height of set when ordering. Write for full information and literature.

Just Snap Into Place
No Tools Required
No Installation Costs

CENTRAL

2204 EAST HUNTINGDON ST. PHILA. 25, PA.

CENTRAL SAFETY EQUIPMENT COMPANY

If you write maker identify as IEN - 5375

Have You Considered Air for the Following Uses?

AIR CURTAINS . . . LIQUID REMOVING
HEAT TREATING . . . SCALE BLOWING
COOLING . . . SPRAYING . . . AGITATION
TESTING . . . DRYING . . . VENTILATING
HEAT TREATING

These and other applications are described in the Spencer Turbo-Compressor Data Book No. 107-C. Yours for the asking.

THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT
SPENCER HARTFORD
466-J

If you write maker identify as IEN - 5376

The "Signature" is the finishing touch on your product!

Ever stop to think that your name plate is really the "signature" on your product? Its appearance should reflect your pride; its durability should match the quality of your product. Let us help you create such a "signature." Our skilled craftsmen, long experience and modern equipment insure finest results. Send a rough sketch or blue print for design suggestion and quotation.

Write now for "Etched or Lithographed Metal Products", with full color examples of name and instruction plates.

CHICAGO THRIFT-ETCHING CORPORATION
1555 N. SHEFFIELD AVE., CHICAGO 22, ILL., DEPT. F
SUBSIDIARY OF DODGE MANUFACTURING CORPORATION, MISHAWAKA, INDIANA

If you write maker identify as IEN - 5377

BALL BUSHING

Sliding linear motions are nearly always troublesome. Thousands of progressive engineers have solved this problem by application of the Precision Series A or Low-Cost Series B BALL BUSHINGS.

Alert designers can now make tremendous improvements in their products by using BALL BUSHINGS on guide rods, reciprocating shafts, push-pull actions, or for support of any mechanism that is moved or shifted in a straight line.

Improve your product. Up-date your design and performance with BALL BUSHINGS! Now manufactured for ¼", ⅜", ½", ⅝", 1", 1½" and 2½" shaft diameters.

THOMSON INDUSTRIES, INC.
Dept. I MANHASSET, NEW YORK
Write for descriptive literature and the name of our representative in your city.

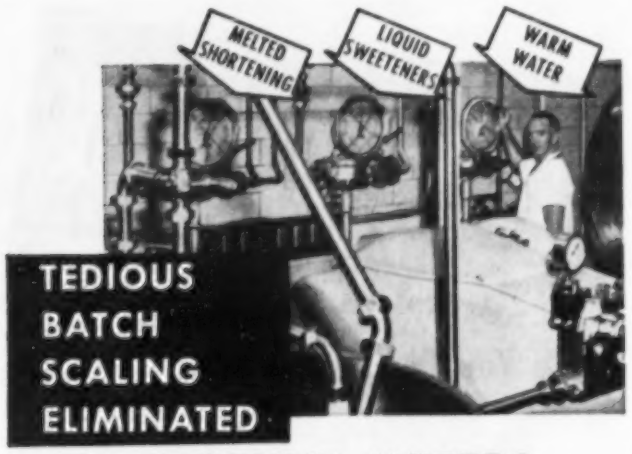
The BALL BEARING for your
LINEAR MOTIONS

LOW FRICTION • LOW MAINTENANCE
ELIMINATES BINDING AND CHATTER
SOLVES SLIDING LUBRICATION PROBLEMS
LONG LIFE • LASTING ALIGNMENT

Also manufacturers of HYLINED Bearings — DuPont NYLON within a metal sleeve — for rotation and reciprocation.

PROGRESSIVE MANUFACTURERS USE BALL BUSHINGS—A MAJOR IMPROVEMENT AT A MINOR COST

If you write maker identify as IEN - 5378



TEDIOUS BATCH SCALING ELIMINATED with NEPTUNE METERS

These accurate Neptune liquid meters automatically measure ingredients into batches, eliminating tedious scaling, improving uniformity of quality, tightening up on inventories, and saving clean-up time. Neptune can do it for you, too. Ask our field engineers for ideas in handling over 100 industrial liquids—just phone our nearest office.

Send for new Catalog 566-NI Today!

NEPTUNE METER COMPANY
50 West 50th Street • New York 20, N. Y.

Branch Offices
ATLANTA • BOSTON • CHICAGO • DALLAS
DENVER • NO. KANSAS CITY, MO.
LOS ANGELES • LOUISVILLE • PHILADELPHIA
PORTLAND, ORE. • SAN FRANCISCO

If you write maker identify as IEN - 5379

Years Ahead IN DESIGN
Wheeler
FLO-LINER

Combines high efficiency and smart styling with unique maintenance ease and economy. When detached, louver assembly is automatically suspended below channel by supporting chains — allows quick, easy access to operating equipment — 2 lamp and 4 lamp units for both single pin and bi-pin lamps!

Write for special FLO-LINER bulletin

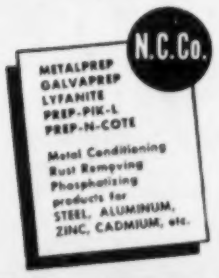
Wheeler REFLECTOR COMPANY
275 CONGRESS STREET — BOSTON 10, MASS.
Distributed Exclusively Through Electrical Wholesalers

If you write maker identify as IEN - 5380

Lyfanite

CORROSION RESISTANT COATING FOR ALUMINUM & STEEL ALLOYS

Lyfanite Coating provides excellent paint bonding properties and resistance to corrosion under Salt Spray and Humidity Tests.



LYFANITE-A a Phosphate Coating for Aluminum Alloys meeting Govt. Spec. M.I.L.-C-5541. Ask for Bulletin 52-98.

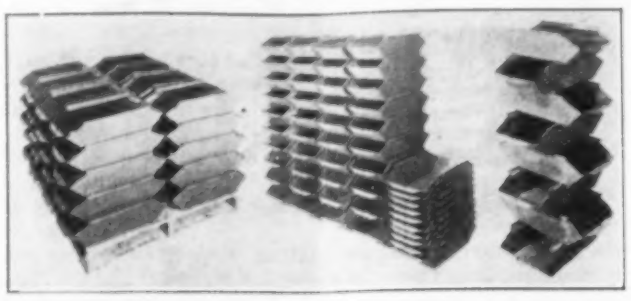
LYFANITE-Z a Zinc Phosphate Coating for Iron and Steel Surfaces. Conforms to Govt. Specs. JAN-C-490, Grade 1, PA-PD-191, Grade 1, and Spec. U.S.A. 57-0-2, Type 2, Class C. Ask for Bulletin 52-118.

NEILSON CHEMICAL CO.
MANUFACTURERS OF METALPREP
2682 Tecumseh Rd Windsor, Ont. — 6584 Benson St., Detroit 7, Mich. — 3411 Union Pacific Ave Los Angeles 23, Calif.

If you write maker identify as IEN - 5381

HANDLING . . Steel tote box to nest, stack, interlock on pallet

Source: RANDOLPH METAL PRODUCTS CO.
3841-45 W. 43rd St., Chicago 32, Ill.



Smooth bottoms to slide or ride conveyors

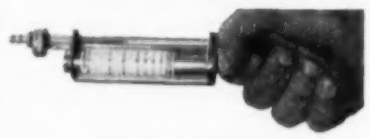
Rantote 877 is a new steel box fitted with sloping ends and hinged shelves or lips along two upper sides. These lips hinge inward to form supports for a box placed on them so the boxes can be stacked in line with each other. The lips hinge outward so the boxes can be nested in each other.

They also can be piled in alternating right angles and, by means of the curved end lips, they can be locked together on a pallet for stable transportation. The sides and end lips act as handles to pick the box up. Dimensions are 12 by 24 by 6 inches. Weight is 10 pounds. Load capacity is 1,200 pounds.

If you write maker identify as IEN - 5382

TESTING . . Portable aspirator detects hydrocyanic acid gas in air

Source: MINE SAFETY APPLIANCES CO.
21 Braddock Ave., Pittsburgh 8, Pa.



Follows fumigation

Squeezing the bulb of this new aspirator draws in a sample of air from an atmosphere suspected of containing hydrocyanic acid gas. If any of the gas is present it turns the white granules of reagent in the aspirator tube to blue, beginning at the end where the air sample enters. The length of this discoloration increases with percentage of the gas in the air. Concentrations of 50 ppm. can be read on the graduated scale enclosed in the tube.

The aspirator is packaged in a leather kit with a shoulder strap. The kit contains the necessary materials and accessories to make twelve separate tests. Thus twelve tubes can be filled with the reagent at one time and stored for a week at 90 deg. F. or for two to three weeks at 70 deg. F. without loss of sensitivity. A sampling hose, 10, 25 or 50 ft. in length, is available with the instrument. Also available is a 3-in. probe that can be thrust into porous materials into which the gas may have penetrated.

Identify as IEN - 5383

Nylon rope has been found excellent to use as the starter rope for little gasoline engines. Plymouth Cordage Company has made a new assembly of such a rope with a wood handle. The nylon is resistant to attack by moisture and oil. The rope and handle list at a half dollar.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5384

A PAID NEWS ADVERTISEMENT BY ARMSTRONG PRODUCTS CO.

HIGH STRENGTH ADHESIVE
Suited to Many Hard-To-Bond Jobs

Bonding of aluminum to aluminum and joining of other hard-to-bond metals is possible with A-6 adhesive which requires only contact pressure for joining and cures at room temperature. It will also bond such other rigid materials as wood, plastics, glass and hard rubber to themselves and to each other. Curing takes from 1 to 36 hours, depending upon temperature applied. Shear tests often exceed 3000 psi at room temperature and 2500 psi at elevated temperatures. Adhesive does not shrink, swell or creep and is available in pints, quarts, gallons and 5 gallon quantities. Trite test kit, including activators, is $1.00 in U. S. or Canada. **Made by Armstrong Products Co.,** P. O. Box 1-S, Warsaw, Indiana.

If you write maker identify as IEN - 5385

step up production with

STOW flexible shaft MACHINES

These dependable STOW FLEXIBLE SHAFT MACHINES save production time . . . speed up output . . . help lower production costs. Variable Speed Models shown are easily portable . . . cut down operator fatigue and increase on the job efficiency!

Constant Speed Models available. Also complete line of accessories designed to increase the utility of STOW Flexible Shaft Machines!

WRITE TODAY
for your free copy of CATALOG 51

STOW MANUFACTURING CO.
25 Shear St. Binghamton, N. Y.

If you write maker identify as IEN - 5386

nylon
MAINTENANCE PARTS . . .
FAST . . . without mold costs!

Now, when you need maintenance parts fast . . . and these parts call for the advantages of nylon (light weight, wear resistance, heat and corrosion resistance)—you can make them quickly, *with no mold cost!*

POLYPENCO nylon standard shapes are the answer. Ideal for gears, bushings, bearings, insulating shafts, washers, etc. Available in rod, strip, tubing. Easily fabricated on standard metal working tools. Quick delivery from stock. Write for bulletin, listing technical information or prices. The Polymer Corporation of Pennsylvania, Reading, Penna.

POLYPENCO® NYLON

nylon and teflon* / stock shapes . . . finished parts
also available to your specifications
In Canada: C-H Engineering Company • Montreal • Toronto
*registered trademark of the Du Pont Company

If you write maker identify as IEN - 5387

CUT COSTS WITH COMPLETE UNDERCARRIAGE ASSEMBLIES

Complete Assembly, up to 6000 lbs. capacity. Tandems and spring variations for loads up to 12000 lbs.

Eliminate the time and labor wasting of buying and assembling separate parts to build a makeshift undercarriage.

Get precision engineered undercarriage construction ideally suited for your individual transport needs.

Let us analyze your requirements and send you an engineering recommendation for your portable equipment.

For Portable
AIR COMPRESSORS
PUMPS • HEATERS
WELDING UNITS
CONCRETE MIXERS
SPRAYERS
SPREADERS
PORTABLE TANKS
PAINTING EQUIPMENT
FARM AND ROAD MACHINERY
BOAT TRAILERS
LIVESTOCK BODIES
AIRPORT AND PUBLIC UTILITY EQUIPMENT

FAYETTE
Precision Built
UNDERCARRIAGES

WRITE TODAY FOR COMPLETE SPECIFICATIONS

FAYETTE MANUFACTURING COMPANY, 310 FRONT STREET, FAYETTE, OHIO

If you write maker identify as IEN - 5388

HOW INDUSTRY IS SAVING MONEY

A PROBLEM—Perhaps it's a bottleneck on the assembly line, broken shipments at the delivery point, stock confusion in the supply department, or any one of a number of problems which can be solved by a dependable industrial tape.

SOLUTION, PART I

An F. O. S. Industrial Tape Analyst who can investigate a problem and suggest a solution. F.O.S. Analysts are trained technical salesmen. They know tapes and the applications which every day are doing new jobs quicker, old jobs better.

SOLUTION, PART II

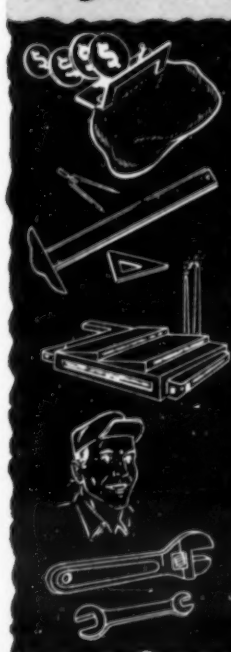
F.O.S. laboratory experts who know industry's problems and have had practical experience in solving them. That's industry's assurance that if there is a better way with industrial tape, there will be an F.O.S. Tape for the job.

You Too Can Benefit—Ask to have an F.O.S. Tape Analyst call on you. He'll show you how to save time and money with F.O.S. Industrial Tape. Prices, catalogues, samples, also on request. Call on "the originators of pressure-sensitive industrial tape" . . . Write factory (below), today.

F.O.S. INDUSTRIAL TAPE DIVISION
THE SEAMLESS RUBBER COMPANY
NEW HAVEN 3, CONN., U. S. A.

If you write maker identify as IEN - 5389

MOTO-TRUC *Designed for . . .*



PURCHASING DEPT.
Costs less . . . fits into budgets . . . economical.

ENGINEERS
Rugged, all welded construction . . . constant traction . . . stabilized 4 point load support on Hi-Lift . . .

PLANT MANAGERS
Small . . . compact . . . *minimum* operation and storage area . . .

OPERATORS
Simplified operation through "Roller Grip" controls . . . anyone can operate the truck with very limited instruction . . .

MAINTENANCE MEN
Especially designed for quick servicing . . . all parts easy to get to . . .

Regardless of individual titles, it will pay you to get ALL the facts on MOTO-TRUC . . . and there's a MOTO-TRUC for every purpose.

Pallet type "Walkie" truck 4000 to 6000 lb. capacity.

SEND FOR BULLETIN NO. 51

Model G. A. Tractor

Hi-lift "Walkie" type 3000 to 4000 lb. capacity.

Platform "Walkie" type 4000 to 10,000 lb. capacity.

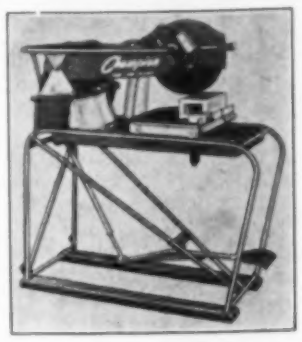
Representatives in Principal Cities

The MOTO-TRUC Co.
1987 E. 59th STREET • CLEVELAND 3, OHIO
PALLET . . . PLATFORM . . . HI-LIFT TRUCKS
LARGEST EXCLUSIVE MANUFACTURERS OF "WALKIES"

If you write maker identify as IEN - 5391

CUTTING . . Abrasive disc machine for concrete, brick, tile, stone

Source: CHAMPION MFG. CO.
2026 Washington Ave., St. Louis 3, Mo.



To take to a job

Assembly of this new Tak-A-Bout masonry cutting machine is on a steel tubular frame to combine rigidity with light weight. The complete assembly weighs 245 pounds. It mounts a pivoted motor-driven 14-in. abrasive disc. The motor rates 1½ horsepower. A smaller unit mounts a 12-in. blade and a 1-hp. motor. The machine can be employed in wet and dry cutting. The work mounts on a roller equipped table riding above a tank secured in the frame. The disc is brought down to make a cut by hand or foot pressure or both as the job may require.

If you write maker identify as IEN - 5392

METAL PARTS . . To specification, made of powdered metal to exact size

Source: CHRYSLER CORP.
6503 Harper Ave., Detroit 31, Mich.

Technical data on request

Ductility, ability to bend and twist without cracking, features a new powdered metal the company has developed and is prepared to supply in the form of finished parts to specification. Steel Oilite is the trade name. Physical properties are comparable to mild steel such as SAE 1010, 1020, 1030. Finished pieces will withstand pressures to 70,000 lb. per square inch. Typical applications include manufacture of gears, cams, brackets and lever arms. The material is not intended for self-lubrication use as in other Oilite products.

Parts are produced by feeding a mixture of the iron powder into a press for die forming. The formed parts are heat treated to fuse the metal particles and then are finish sized in a press to minimize the need for further machining operations.

If you write maker identify as IEN - 5393

LADDER . . Made of aluminum, mounts flat steps, specified lengths

Source: HILTON MFG. CO.
12322 W. Lisbon Ave., Dept. M, Milwaukee 16, Wis.

Has safety shoes

Sure-Step is a new aluminum ladder designed for safe use and to support a worker comfortably for extended periods of time. The ladder is equipped with safety shoes that adapt themselves to varying surfaces and angles. At the top, rubber bumpers hold securely against a wall. Standard width is 18 inches. Length is to specification in 2-ft. intervals to meet user requirements.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5394

Try Them Free!
KEPS®
TESTING SAMPLES

See how this amazing new Shakeproof fastening saves assembly time and assures vibration protection. A SHAKEPROOF® Lock Washer of the right size and type is pre-assembled on each nut . . . only one unit to handle . . . the lock washer can't drop off . . . every nut is certain to be locked tight.

SEND FOR YOUR FREE KIT OF KEPS TESTING SAMPLES TODAY!

SHAKEPROOF®
"Fastening Headquarters"
Division of Illinois Tool Works
St. Charles Road, Elgin, Illinois

If you write maker identify as IEN - 5395

"In-Sink-Erator" food waste disposer eliminates one of the messy kitchen problems faced by the housewife by having the garbage go down the drain. It is easily installed in sinks, safe to use.

One of the first garbage grinder manufacturers to use Klixon Protectors, In-Sink-Erator Mfg. Company has used Klixon Manual Reset protectors in their disposer since 1946. The reason — experience proves that these protectors can be depended on to provide protection against motor burnouts, thus assuring trouble-free operation for years on end.

You, too, can keep your motors operating longer, reduce service calls and repairs by specifying and using Klixon protected motors. The additional cost is exceptionally low, pays for itself in customer goodwill by reducing motor burnouts.

SPENCER THERMOSTAT
Division of Metals & Controls Corporation
205 Forest St., Attleboro, Mass.
KLIXON

If you write maker identify as IEN - 5396

Grinding Costs Slashed with Porter-Cable ABRASIVE BELT GRINDERS

1. Initial Cost is lower
2. Installation Cost is less
3. Maintenance is minimized
4. Skilled labor is not required
5. Production is increased — labor cost on each job is cut
6. Inventory of milling cutters or grinding wheels is eliminated
7. Fixtures are less expensive, frequently eliminated
8. Polishing Time is greatly shortened
9. Machine Allowances can be reduced — thus saving material

PORTER-CABLE
Machine Co.
1205 N. Salina St., Syracuse 8, N. Y.
In Canada write:
Strongridge, Ltd., London, Ont.

Free! A 32-page fact-packed booklet with 46 examples of how Abrasive Belt Grinding ups output, slices costs.

If you write maker identify as IEN - 5397

Over 85% of the torque wrenches used in industry are

STURTEVANT TORQUE WRENCHES

Read by Sight, Sound or Feel

- Permanently Accurate
- Practically Indestructible
- Faster—Easier to use
- Automatic Release
- All Capacities

in inch ounces
. . . inch pounds
. . . foot pounds
(All sizes from 0-6000 ft. lbs.)

Every manufacturer, design and production man should have this valuable data. Sent upon request.

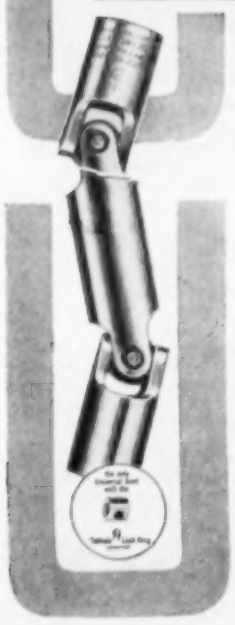
P.A. STURTEVANT CO
ADDISON QUALITY ILLINOIS

If you write maker identify as **IEN - 5398**

Perfect Balance

Each of the elements in a Curtis Joint is precisely proportioned in dimensions, heat treatment and steel composition to provide balanced performance.

CURTIS UNIVERSAL JOINTS



One advantage of this integrated balance is demonstrated in laboratory tests which prove that Curtis standard stock universal joints — although not specifically intended for high speed application — perform successfully at speeds up to 3,000 or 4,000 r.p.m.

ONLY CURTIS OFFERS ALL THESE ADVANTAGES

Availability — 14 sizes always in stock; bored or unbored hubs. 6" hub diameter joints or special machining to specifications.

Simplicity—fewer parts, simpler construction.

Government Tests — complete equipment for government tests in our plant.

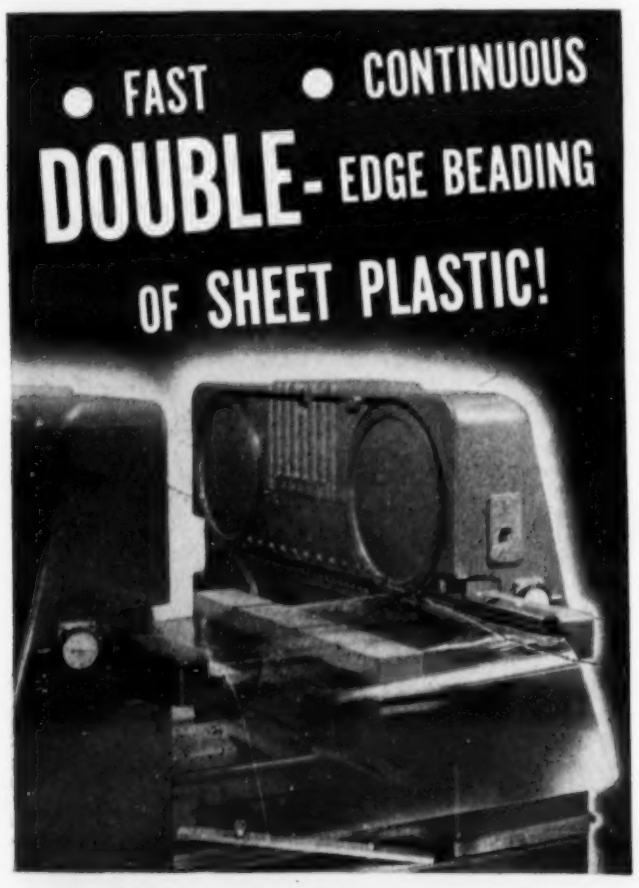
Not sold through distributors; write direct for free engineering data and price list.

CURTIS UNIVERSAL JOINT CO., INC.
7 Birnie Avenue Springfield, Mass.

As near to you as your telephone

A MANUFACTURER OF UNIVERSAL JOINTS SINCE 1919

If you write maker identify as **IEN - 5399**



Model-144 THERMOBEADER *Duplex*

Adjustable for handling sheet plastic rolls, strips or blanks 2" to 20" wide, the Thermobeader Duplex simultaneously beads *two* parallel edges at high speed. Dual heads can ALSO be used *independently* for single edge beading which gives you the same capacity as TWO single edge beaders. Substantially reduces production costs!

The TABER LINE of PLASTIC FORMING EQUIPMENT also includes:

THERMOFOLDER: 180° folding, one operation.
THERMOCREASER: 90° creasing.
CYLINDER BEADER: For beading both ends simultaneously of pre-formed plastic cylinders.
CYLINDER FABRICATOR: For forming cylinders from plastic sheet.
THERMODRAW PRESSES: For drawing caps, covers, jacketing and embossing.

MAIL COUPON FOR FREE LITERATURE

Taber INSTRUMENT CORPORATION
SECTION 15
111 Gaundry St., North Tonawanda, N. Y.

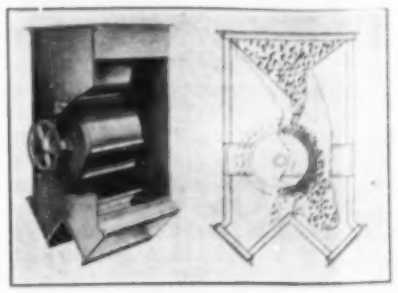
☐ Please send me information on Taber Thermobeader Duplex
☐ Please send me information on other Plastic Forming Equipment

NAME .....
COMPANY .....
ADDRESS .....
CITY ..... ZONE ..... STATE .....

If you write maker identify as **IEN - 5401**

SEPARATING . . Permanent magnet unit removes tramp iron from flow in duct

Source: ERIEZ MFG. CO.
253 Grove Drive, Erie, Pa.



Illustrated details in Bulletin B-601

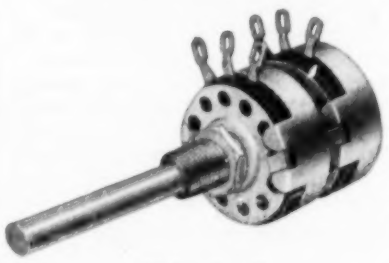
Stainless steel shell revolves around a stationary bank of Alnico magnets in this recently improved assembly of the company's drum type magnetic separator. Material from which tramp iron is to be removed feeds downward through an adjustable opening to come in contact with the shell. It carries the material through the stationary magnetic field, the non-magnetic material falling freely while the ferrous particles are held until they are carried beyond a divider and out of the field.

Two drum diameters measure 12 and 18 inches. The former is available in six widths from 10 to 32 in., the latter from 14 to 38 inches. Capacity ranges from 575 to 5,000 cu. ft. per hour. Model DF101, shown in the illustration, and Model DF102 are both available with a driving motor rating ⅓ or ½ hp. Standard assembly includes a United States Syncrogear unit for operation at 68 rpm. on three-phase 60-cycle 220/440-volt ac. Speed can be altered by changing the sheave.

If you write maker identify as **IEN - 5402**

RHEOSTAT . . Tandem assembly with molded ring resistance elements

Source: OHMITE MFG. CO.
4876 Flournoy St., Chicago 44, Ill.



"Noise Free"

Two of the company's Type-AB potentiometer type rheostats, previously described IEN-9068-50, are now available in tandem with a 2-in. shaft extension and independent electrical connections. Each unit employs a molded composition resistance element rating 2 watts. The elements are protected against contact with moisture and are not affected by changes in ambient temperature.

Terminals are embedded in the resistance. All of the metal parts are corrosion proof. Housing diameter is a little over 1 inch. Resistance ranges from 10,000 ohms to 1 megohm.

Identify as **IEN - 5403**

Federal Tool and Manufacturing Company has developed a process that employs floating punches and a reciprocating die for multiple hole punching. It is suited for short run stamping production in which delivery must be quick and tool cost minimized. The company is prepared to give fast action on parts ranging from ¾ in. in diameter to 2¾ by 4¾ in. in width and length. It will quote upon request.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 5404**

For specifications and prices on the complete line of Ballymore Safety Step Ladders, send for free catalog. Ballymore Company, Wayne 4, Pa.

BALLYMORE SAFETY STEP LADDERS

If you write maker identify as **IEN - 5405**

MYSTIK® BRAND TAPES · SELF-STIK

Protecto-Mask

eliminates costly refinishing!

Highly polished surfaces on aluminum, stainless steel, plastics, glass . . . metals and materials of all kinds . . . *must* be protected from costly scratches, in fabrication, storage, shipment.

MYSTIK® Brand Protecto-Mask is *self-stik* . . . easily applied directly from the roll for a tough, scuff-resistant "skin." Adheres instantly, yet peels off easily without leaving residue. Can also be used for layout and diagramming.

WRITE TODAY for information and samples. Mystik Adhesive Products, 2644 North Kildare Ave., Chicago 39.

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If you write maker identify as **IEN - 5406**

THERE'S A U. S. INDUSTRIAL GLOVE TO MEET ALL YOUR INDUSTRIAL NEEDS

U. S. NEOPRENE Dipped Industrial Gloves

- Give maximum safety, comfort and economy.
- Withstand gasolines, oils, acids, chemical solutions.
- Curved finger construction.
- Longer lasting.
- Flexibility plus roughened surface for positive grip. (Smooth surface on special order.)
- Available in a full line of sizes, lengths and weights.

Knit Wrist Style *One size only*

Gauntlet Style *Heavyweight only*

U. S. NEOPRENE Canvas-Lined Utility Gloves and Gauntlets

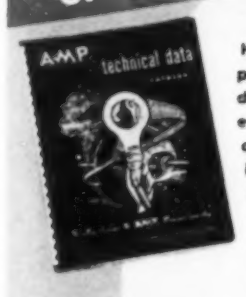
- Full hand protection.
- Neoprene-dipped, full-cut, canton flannel inserts.
- Curved fingers.
- Easy flexibility.
- Long wearing.
- Protect against cuts, splinters and abrasions.

"U. S." will be glad to analyze your glove needs and help select the right glove for the right job. Call your nearest United States Rubber Company Branch or write United States Rubber Company, P. O. Box 1453, Providence, R. I.

U. S. INDUSTRIAL GLOVES
Product of UNITED STATES RUBBER COMPANY

If you write maker identify as **IEN - 5408**

NEW AMP TECHNICAL CATALOG of SOLDERLESS WIRING!



Here, for the first time, is a complete 78 page catalog of technical information devoted solely to *solderless wiring*. AMP's engineering and research facilities are outlined together with test data covering altitude, corrosion, comparative resistance, low currents, radio and audio frequencies, etc. Actual case studies are included which give savings in time and labor in typical applications. Send for your catalog today!

AIRCRAFT-MARINE PRODUCTS INC.
2100 PAXTON STREET, HARRISBURG, PA.
AMP Trade-Mark Reg. U. S. Pat. Off.

If you write maker identify as **IEN - 5409**

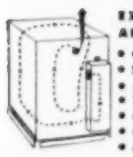
UNLESS YOU'RE WELDING IN *ARID ARIZONA*

you need... **BLUEWELD**

Aridair
ELECTRODE
Moisture Content
STABILIZER

LOW HYDROGEN and STAINLESS STEEL ELECTRODE STABILIZER

Specifically designed and engineered to maintain correct moisture content.



EXCLUSIVELY ARIDAIR
- *Chemically dried air*
- *Shelf circulation*
- *Electrically heated*
- *Thermostatically controlled*
- *Recessed shelving*
- *Rigid construction*
- *Multiple unit stacking*

Write for details

Fred C. Archer, Inc.
MANUFACTURER
606 W. Wisconsin Ave.
MILWAUKEE 3, WISCONSIN

If you write maker identify as **IEN - 5410**

CHANGE DRILLS IN A JIFFY

NOW! ELIMINATE SPECIAL LENGTH DRILLS

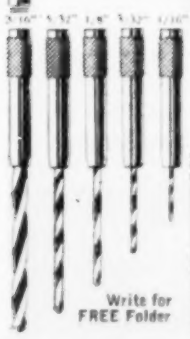
Widely used in the aircraft industry, this handy 9/32" diameter LITTLE BEAVER DRILL EXTENSION and 8-1/2" x 1/4" extension rod makes small diameter, recessed drilling easy in hard-to-get-at-areas. Used on metal and wood with regular drills.

The LITTLE BEAVER DRILL EXTENSION is used in power and hand drills, lathes, drill presses, turret lathes for home workshop, production, cabinet making and boatbuilding.

All for the one low price of **5.95 PER SET POSTPAID**

SET CONSISTS OF
5 EXTENSION CHUCKS
8½" x ¼" EXTENSION ROD
5 HIGH SPEED DRILLS,
Sizes 1/16"—3/32"—1/8"—5/32"—3/16"

FITS ALL 1/4" CHUCKS



No C. O. D.'s
Send check or M. O. to

LITTLE **Beaver** DRILL EXTENSION-CHUCKS

BEAVER TOOL CO.
183 E. New York Ave., Box 298, Huntington, N. Y

Please send me ____ sets of the Beaver Extension Chuck and Rod at $5.95 per set.

Name .....

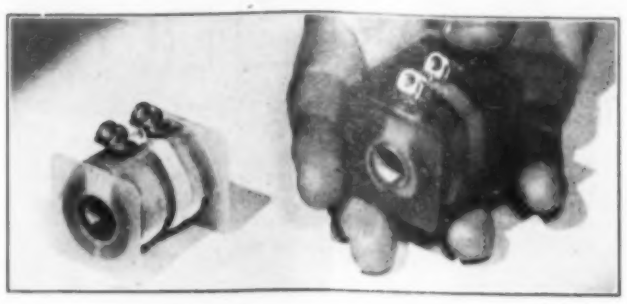
Address .....

Write for FREE Folder

If you write maker identify as **IEN - 5411**

INSULATING . . Encapsulating resins to embed electronic components

Source: MINNESOTA MINING & MFG. CO.
902 Fauquier St., Dept. IEN, St. Paul 6, Minn.



Available now in limited quantities

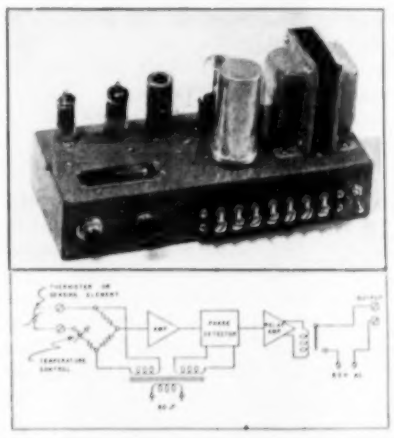
Resistors, unitized electronic circuits, audio and power transformers, can be hermetically sealed in a solid block of the new Scotchcast insulating resin. Two forms are available. One is solid and is heated until it has been liquefied. Then a catalyst is added and the mixture is poured into a mold. This resin cures at 250 deg. F. from four to eight hours. The second form is a liquid. It is poured cold, with a hardener, and cures at room temperature in three to six hours.

Both resins are free from volatile products and will not fail chemically in a range between minus 40 and plus 250 deg. F. They are resistant to attack by acids, alkalis, solvents, oils. They provide excellent adhesion to most metals, plastics and conductors. Dielectric strength is about 1,000 volts per mil on thin sections. Neither material will support combustion. Both are inert to fungus. Both can be machined.

If you write maker identify as **IEN - 5412**

THERMOSTAT . . Electronic assembly holds ambient temperature constant

Source: KALBFELL LABORATORIES INC.
1088 Morena Blvd., ETI-131, San Diego 10, Calif.



Assures precision performance

Electronic amplifier and relay are controlled by the output of a sensing element connected into a wheatstone bridge in this new thermostat. It has been designed particularly to maintain constant ambient temperature at 100 deg. F. in any precision network employing non-linear resistors such as germanium diodes. It applies with the company's Logaten non-linear attenuating network in which a thermistor sensing element is embedded prior to encapsulating.

The relay, operating through the amplifier, turns an electric heating element on and off to maintain the temperature constant within 0.2 deg. F. A strain gage or other impedance type sensing device can be employed in place of the thermistor. The amplifier is phase sensitive design so the relay will remain open if the temperature exceeds the rated value.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 5413**

PIONEER BELT DRIVEN GENERATORS

the portable power you need in your plant to **DELIVER CURRENT EFFICIENTLY & ECONOMICALLY!**

For portable power inside or out the plant, Pioneer Generators are *dependable* and *capable* of operating under *all* weather conditions. For Stand-By insurance when regular power fails, generators can run power tools and lights to meet all your needs. *Over 20 years* of manufacturing experience gives you engineering know-how and efficiency. **Write today** for catalogs and prices on Pioneer 500 to 5000 watt Generators for every industrial use.

PIONEER Gen-E-Motor Corporation
5831 West Dickens Avenue • Chicago 39, Illinois

If you write maker identify as **IEN - 5414**

Fire HATES this building

One reason Armco Buildings are so popular is their noncombustible, all-steel construction.

It means added safety for men and materials. Insurance rates are lower. Replacement and maintenance problems are simplified.

Armco Buildings stay neat and attractive year after year. With STEELOX construction there is nothing to get out of order—nothing to crack, warp or rot. Long service is assured.

Use Armco Buildings for shops, offices, warehouses and similar needs. They are ideal on permanent or temporary sites.

WRITE FOR THE COMPLETE MONEY-SAVING STORY

ARMCO DRAINAGE & METAL PRODUCTS, INC.
2723 CURTIS STREET
MIDDLETOWN, OHIO

If you write maker identify as **IEN - 5415**

MECHANIZE your manpower

Take the shovel out of a man's hand and put him on the seat of a "PAYLOADER" tractor-shovel. Then step back and watch your bulk materials *really* move—faster and cheaper. In hundreds of plants and yards "PAYLOADERS" pay for themselves in a few months by cutting time and labor costs and boosting production. They work indoors and outdoors — unload box cars — dig, carry, load, dump, lift, pull and push. Seven sizes available from 12 cu. ft. to 1½ cu. yd. Consult your Hough Distributor or write The Frank G. Hough Co., 841 Sunnyside Ave., Libertyville, Illinois.

PAYLOADER®
THE FRANK G. HOUGH CO. • Since 1930

If you write maker identify as **IEN - 5416**

Drill More Holes Per Hour In ANY Pattern... On ANY Drill Press

with a *Adjustable* **MULTI-DRILL**

DRILLS 2 to 8 HOLES at ONE STROKE

Increase production up to 800% ... save time, cut costs. MULTI-DRILLS make *any* drill press produce *more*. Attached without alterations or special tools. Quick, easy setups of universally adjustable spindles give you more flexibility . . wider application. Handles any hole pattern within 9" circle; centers close as ½". Extension Spindles available to increase working area to 22½". Special adaptations available.

model **900**

DRILLS ANY HOLE PATTERN

See your Commander Distributor for complete details. Write for the NEW Commander Full Line Catalog No. 851.

COMMANDER MFG. CO.
4219 W. Kinzie St. • Chicago 24, Illinois

Product of *Commander*... Builder of Production Tools

If you write maker identify as **IEN - 5417**

Give Your Product the Advantages of...

PLASTIC NAMEPLATES by SILLCOCKS-MILLER

Here's what these quality nameplates can give you:

- Distinctive appearance.
- Unlimited choice of colors.
- Resistance to temperature and weather.
- Lasting protection to message.
- Materials to fit your specific service.
- Freedom from corrosion.
- Easily kept clean.

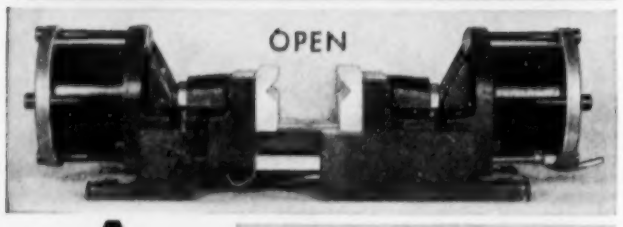
Sillcocks-Miller specialists can help you work out your requirements to make the most of these advantages. Write for details and send specifications for quotation.

The SILLCOCKS-MILLER Company — Pioneers in Plastic Fabrication since 1910

27 West Parker Avenue • Maplewood, N. J.

If you write maker identify as **IEN - 5418**

BLACK "CENTR-FINDER" VISE



A Precision TOOL

designed to locate centers or other pre-determined points regardless of shape or varying sizes of parts within .001" horizontally or vertically.

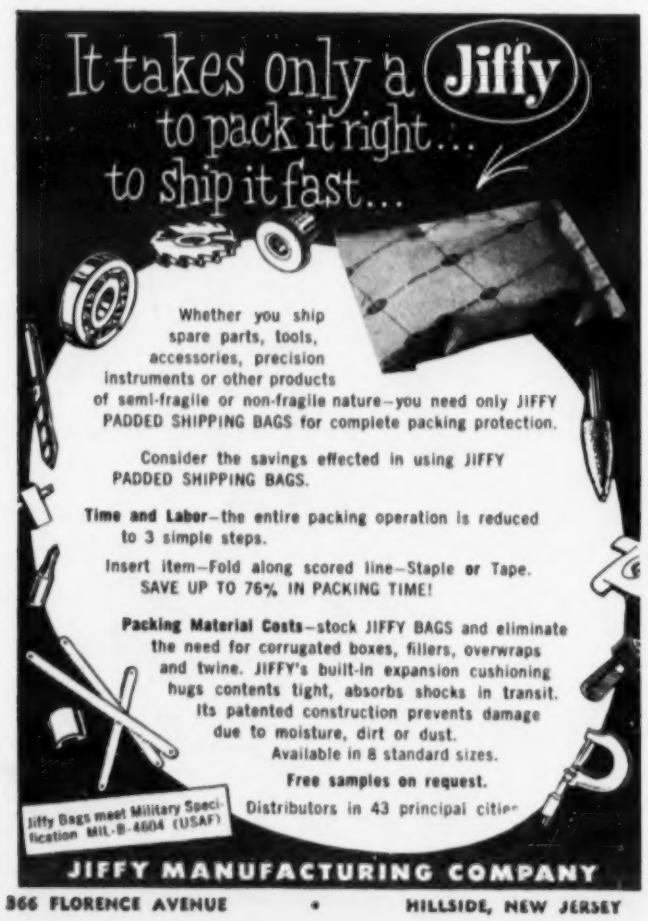
Vise jaws travel on guides—actuated by opposed double-acting cylinders—synchronized by mechanical means. Force exerted is all straight line. Clamping pressures up to 2000 pounds. No pressure exerted through synchronizing mechanism. Working range 0 to 4". For centering, drilling, chamfering, hollow milling, deburring, reaming and many other production operations.

write **FOR BULLETIN**

BLACK DRILL CO., INC. • 1378 E. 222nd St. • Cleveland 17, Ohio

If you write maker identify as **IEN - 5419**

It takes only a Jiffy to pack it right... to ship it fast...



Whether you ship spare parts, tools, accessories, precision instruments or other products of semi-fragile or non-fragile nature—you need only JIFFY PADDED SHIPPING BAGS for complete packing protection.

Consider the savings effected in using JIFFY PADDED SHIPPING BAGS.

Time and Labor—the entire packing operation is reduced to 3 simple steps.

Insert item—Fold along scored line—Staple or Tape. SAVE UP TO 76% IN PACKING TIME!

Packing Material Costs—stock JIFFY BAGS and eliminate the need for corrugated boxes, fillers, overwraps and twine. JIFFY's built-in expansion cushioning hugs contents tight, absorbs shocks in transit. Its patented construction prevents damage due to moisture, dirt or dust.

Available in 8 standard sizes.

Free samples on request.

Distributors in 43 principal cities

Jiffy Bags meet Military Specification MIL-B-4604 (USAF)

JIFFY MANUFACTURING COMPANY

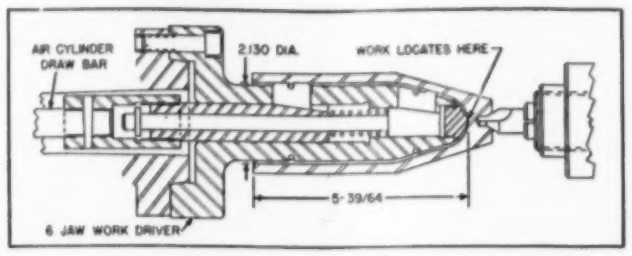
866 FLORENCE AVENUE • HILLSIDE, NEW JERSEY

IDEAS FOR YOU

Items of particular interest in the news other than straight new products, development pointing toward the future, unusual procedure to accomplish a point, suggestions for practical action, each to provide ideas for you.

Identify as **IEN - 5420**

Seneca Falls Machine Company has sent us a sketch to show how a shell manufacturer solved a centering problem



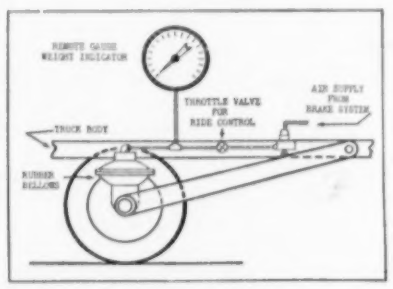
for his Lo-swing lathes. The setup shown is on a Model-CS automatic centering machine.

Identify as **IEN - 5421**

Zero porosity, uniform coverage without regard to size or shape, and marked conservation of nickel, characterize the Kanigen chemical nickel plating process that is about to be released for license by General American Transportation Corporation. The company worked out the process for its own use in the interior of its tank cars to prevent iron pickup by the corrosive liquids carried in these cars. It will be ready to license its use for general product plating as soon as all of the production problems have been solved. Bulletin is available outlining the new process and its applications.

Identify as **IEN - 5422**

A bellows unit has been developed, patented and successfully applied by Weber Instrument Corporation on several of its equipment designs. A spring testing machine is one example. Now the company has extended the application to take in motor trucks in which the bellows assembly replaces the truck springs and also serves as a quick means to take load weights by measuring air pressure. The company now is open for offers to purchase manufacturing and sales license for the truck application. The accompanying sketch shows a typical installation in schematic manner.



All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 5423**

New SHOPPING CENTER Uses FRICK Air Conditioning Throughout

Frick Units, like this one in the Beauty Salon above, Air Condition all the Shops at Freedom Center. Below: the Drug Store Air Conditioned by Frick at Freedom Center.

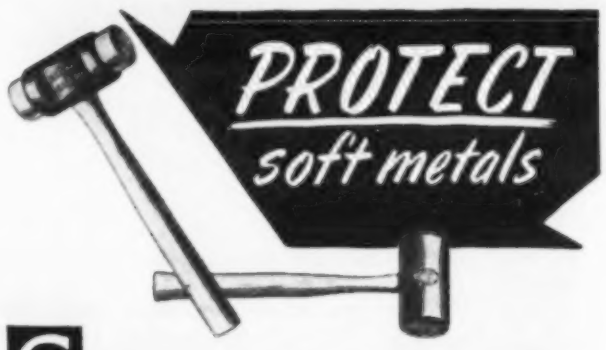
The eleven stores in the big new Freedom Shopping Center in Baltimore, built and owned by Henry J. Knott Enterprises, are all kept cool and comfortable with Frick Unit Air Conditioners. Several of these are tied-in with heaters for year-'round use. Installation by the Paul J. Vincent Co., Baltimore Distributors who have put Frick Air Conditioning in over 100 theatres.

Frick Refrigerating and Air Conditioning can solve YOUR cooling problems equally well. Write

FRICK CO. WAYNESBORO, PENNA.

Also Builders of Power Farming and Sawmill Machinery

If you write maker identify as **IEN - 5424**



Garland Rawhide Mallets and Hide-Faced Hammers are made of resilient Water Buffalo Hide, the toughest rawhide known. Will not damage steel, iron, brass, aluminum or other soft metals.

Longer wear and uniformly exact size result from compression under many tons pressure.

Extra faces fit securely without grinding.

Write for free folder listing sizes, weights, and prices.

We will send you the name of your local dealer on request.

Garland MFG. CO. SACO, MAINE

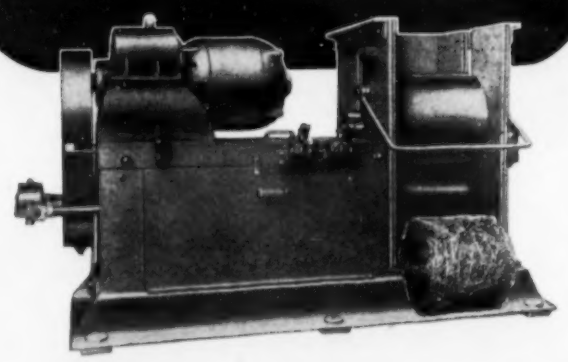
Manufacturers of Rawhide Hammers, Mallets, Loom Pickers

If you write maker identify as **IEN - 5425**

NOW! Bundle Scrap into 18" and 24" Diameter Bundles

EASY TO HANDLE, SHIP, REMELT OR STORE . . . with the

McLanahan SCRAP BUNDLER



Designed for efficient bundling of scrap wire and strip metals, anything of a stringy nature, the new McLanahan Scrap Bundler "wraps" scrap into compact cylinders for easy handling. Fast and economical in operation, this new machine is the answer to your scrap bundling problems.

Write for new "Scrap Bundler" Bulletin Today!

McLANAHAN and STONE Corp.

Hollidaysburg, Pa. SINCE 1835

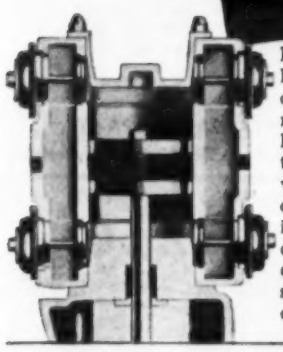
If you write maker identify as IEN - 5427

If you write maker identify as IEN - 5428

Prevent Contamination

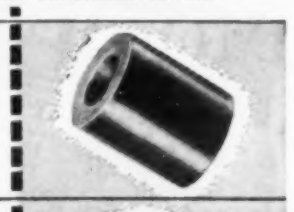
PROTECT PURITY—
in compressors handling foods, chemicals, plastics, beverages, oxygen, etc.

MORGANITE SELF-LUBRICATING PISTON RINGS

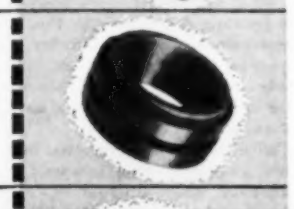


Require no lubricant during the life of the ring...completely efficient lubrication is inherent in the rings themselves. This "built-in" lubrication employs no impregnations...imparts no taste or odor, will not contaminate. Because no oiling is necessary, maintenance is reduced and operating costs are lower. Morganite Self-Lubrication Rings are the practical solution for compressors in oxygen and other hazardous service.

● **MORGANITE SELF-LUBRICATING BEARINGS** — Non-contaminating, unaffected by chemicals and most acids. Operate efficiently at relatively high speeds and temperatures. Recommended for pumps, mixers, grinders, agitators, food and enameling oven conveyors and general industrial service.



● **MORGANITE SELF-LUBRICATING CARBON SEALS**—Recommended for pumps, agitators, mixers and other equipment handling liquids including corrosives. The self lubricating feature is especially valuable where inaccessibility makes maintenance difficult.



● **MORGANITE LIQUID METER VALVES AND SLIDES**—Unaffected by petroleum, solvents, most acids and alkalis. Remain efficient over a wide temperature range, operate wet or dry, will not warp and are free from metallic noise. Ideal for sealed mechanisms and inaccessible locations.

FOR ENGINEERING ASSISTANCE ON SPECIFIC PROBLEMS, CONSULT—

Morganite sales engineers are available to help work out a practical solution to your design or maintenance problems.

Morganite INCORPORATED

LONG ISLAND CITY 1, NEW YORK

MANUFACTURERS OF SELF-LUBRICATING CARBON SPECIALTIES, CARBON BRUSHES AND CARBON PILES

IDEAS FOR YOU—Continued

Identify as IEN - 5430

Now you can purchase transparent vinyl plastic sheets to admit light through your windows, but keep out sun glare,

from Filterzone Autovision Company. It calls the product Thermo-Glare Shield and offers it in several colors. You can cut your own pieces from a large sheet or specify the cut sizes you want. The material is tough, chemically inert. It adheres after wetting the window surface and then rolling the air bubbles out from between the glass and the plastic. It strips off clean, can be used again.

Identify as IEN - 5431

You say "charge it" when you purchase airline tickets with a United Air Lines' Air Travel Card. The card is now honored by 32 scheduled airlines in the United States and by many of the foreign carriers. If you wish to join the present 45,000 subscribers just tell United you are interested.

Identify as IEN - 5432

The Lull-Traveloader, by Baker-Lull Corporation, is a husky engine driven truck with a side operating fork lift for long loads. Now it has been designed for a special coil handling job in which it picks up 1½-ton coils of wire and carries them to a battery of 39 bolt heading machines. It rides a railroad track 750 ft. in length. Load capacity is 3 ton.

The company's engineers are prepared to investigate a proposed special application of the side-loading truck and to make recommendations.

Identify as IEN - 5433

Plastic tile, asphalt tile, rubber tile, linoleum, can be cut quickly and easily on a straight or curved outline with a new blade attachment on the Wen Products Company electric soldering iron. The blade heats at once, on plugging the iron into a 110-volt outlet and pressing the control trigger. It cools when the trigger is released. A built-in spot light illuminates the work so the operator can follow a guide line closely.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5434

Varglas Silicone retains properties at 500° F or – 85° F. **Varglas Tubing Impregnated with General Electric Permafil,** tough, flexible, heat-resistant. **Varglas Sleeving and Tubing,** numerous types and grades. **Varglas Non-Fray Sleeving,** for temperatures up to 1200° F. **Varflo Tubing and Sleeving,** made of Fiberglas, priced like cotton. **Varflex Cotton Tubing and Sleeving** where Fiberglas is not required. **Syntholvar Extruded Plastic Tubing,** made from vinyl polymers.

Free—For free folder of our complete line, just drop us a card today.

VARFLEX CORPORATION
306 N. Jay St.
Rome, N. Y.

If you write maker identify as IEN - 5435

UP THE LADDER...and DOWN

1,000-LB HOIST WEIGHS ONLY 30 LB

It's as easy as that to carry and hang

KELLER

Air Hoist

One man handles it easily... makes replacements quickly . . . avoids "down time" that might keep a whole department idle.

VARIABLE SPEED with finger-tip control—spots loads accurately.

CAN'T BURN OUT from stalling. Not affected by dust and fumes. Maintenance costs are negligible!

Send for **illustrated descriptive bulletin and detailed information**

Keller Tool Company
GRAND HAVEN, MICHIGAN

If you write maker identify as IEN - 5436

For quality control you can be proud of

When you have inspection and quality control procedures you're proud enough of to talk about, they must be good.

These three advertisements were published by firms justly proud of their methods. All three use Kodak Contour Projectors as an example of the type of care they exercise in producing products of uniformly high precision.

Optical gaging with a Kodak Contour Projector provides a fast, accurate method of production measurement and inspection. Operators can get the work out in a hurry—little training is required. Accessories are available to make possible measurement of the most complex shapes.

To see how a Kodak Contour Projector can help you reduce inspection costs, improve quality, send for our new 12-page booklet. It gives you details of both the Model 2A, for precision micrometry, and the Model 3, for fast, routine gaging. For your copy, write to:

Industrial Optical Division
EASTMAN KODAK COMPANY, Rochester 4, N. Y.

the KODAK CONTOUR PROJECTOR

A new sound movie, Optical Gaging, shows how to simplify complex inspection problems. We'll tell you how to get it for a showing.

Kodak

If you write maker identify as IEN - 5438

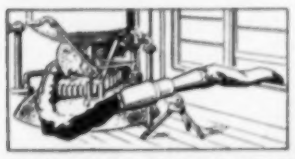
Ventilate CONFINED Places with Vano Design "C" Ventilator-Exhauster

WELDING FUMES are here removed by this Vano Ventilator-Exhauster.

Ideal for withdrawing welding fumes from confined places or directly from the welding rod. Provides greater safety, greater comfort for workers . . . leads to greater work efficiency. Can be furnished with 8" suction inlet to which 8" non-collapsible suction tubing may be attached . . . or provided with multiple inlet nozzles for 5", 4" and 3" suction hose.

Other types are also available for supplying fresh air to men working in confined places, such as tanks, manholes, drums, boilers and shipholds.

For full details on Coppus Vano Design "C" Ventilator-Exhauster write COPPUS ENGINEERING CORPORATION, 145 Park Avenue, Worcester 2, Mass.

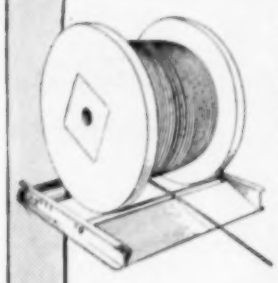


FUMES FROM A REACTOR KETTLE are here withdrawn by tripod-mounted Vano Ventilator-Exhauster. Note non-collapsible suction tubing and discharge tubing.

ANOTHER COPPUS "BLUE RIBBON" PRODUCT

If you write maker identify as IEN - 5439

Simple as A B C



Handle heavy reels easily and safely; remove wire or cable from top or bottom, front or back of reel with

ROLL-A-REEL

Low slanted front and positive front lock insure quick loading or unloading.

Eliminate jacks and cumbersome handling.

Style A: 2,000 lbs. cap. 37.50
Style B: 4,000 lbs. cap. 75.00
f.o.b. Cincinnati

Carried easily to reels, job or storage.

Sold through wholesalers only.

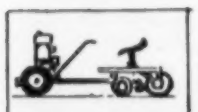
WRITE TODAY FOR DETAILS

ROLL-A-REEL
327 WEST FOURTH STREET
CINCINNATI 2, OHIO

If you write maker identify as IEN - 5440

MAXIM SNOW THROWERS

NOW A GOOD BUY FOR DECEMBER OR JULY

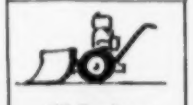


3-Gang 72" Mower

37" Rotary Mower

Now you can use a Maxim Snow Thrower all year long. The snow thrower unit is readily removable, leaving a sturdy 7.5 h.p. tractor on which you can quickly attach the equipment shown here. Tractor is equipped with a heavy duty transmission having 3 forward speeds and one reverse. Use this one piece of equipment for snow removal, mowing, rolling, grading, or hauling.

700 Lb. Lawn Roller



42" Grader or Snow Blade

1/2 Ton Dump Trailer

WRITE FOR DETAILS

ON THIS MULTIPLE USE EQUIPMENT!

THE MAXIM SILENCER COMPANY
71 Homestead Avenue, Hartford 1, Connecticut

Name _____
Address _____

1MT53

If you write maker identify as IEN - 5441

PROTECTING . . Vinyon-N coveralls, immune to attack by acids, alkalis

Source: FILTRATION ENGINEERS INC.
153-57 Oraton St., Newark 4, N. J.

Launders easily

Feon, a Vinyon-N fabric, is the material employed in this new worker's coveralls. The design is made for comfortable wearing. The material is tough, strong, cool and will not show dirt readily. It is immune to attack by bacteria and mildew. It is assembled with thread of the same chemically resistant synthetic Feon fiber. It includes two breast pockets, a pencil pocket, two side pockets with access slots to inner pockets, two double reinforced hip pockets and a tool pocket. Snap cuff trousers, a zipper front with pulls at top and at bottom, complete the assembly.

If you write maker identify as IEN - 5442

WOOD . . Laminated on paper to provide decorative surface finish

Source: DAVID FELDMAN & ASSOCIATES
523-27 Walnut St., Cincinnati 2, Ohio

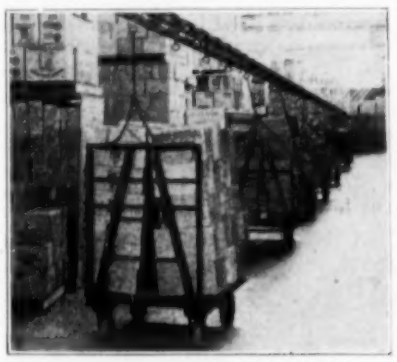
Sample booklet upon request

Microwood is a new laminated sheet consisting of a finely shaved layer of wood and a thin paper backing. Total thickness is 0.005 inch. The sheet bends easily but has excellent tensile strength. It can be stamped, printed, lacquered, waxed, oiled, polished by machine or by hand. It applies with ordinary adhesives to produce a surface finish on paper and wood containers or on wood, paper or metal panels. It is available in 10 African and European woods ranging from light to dark. It is supplied in rolls of various widths and lengths.

If you write maker identify as IEN - 5443

TRUCK . . Four wheel platform operates with a dragline conveyor

Source: LEWIS-SHEPARD PRODUCTS INC.
190 Walnut St., Dept. R-5, Watertown 72, Mass.



For warehouses

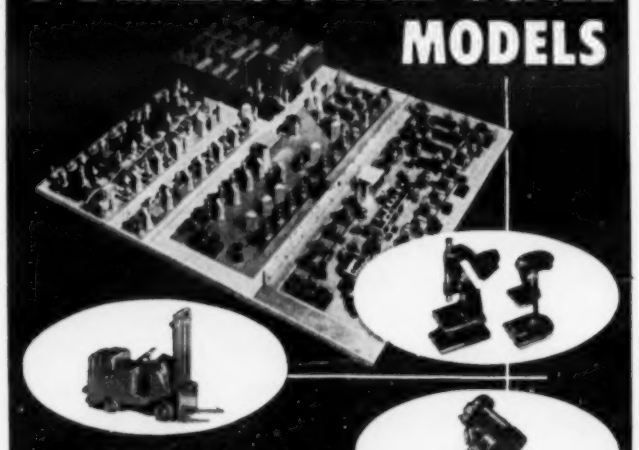
Platform sizes and load capacities are to specification in the company's new design of dragline platform truck. It employs a welded steel frame. Wheels and casters are assembled to maintain steady tracking. The deck is made of wood with side strips that cause a load to stack with a slant toward the center.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5444

NEW MANUFACTURING TECHNIQUES DRASTICALLY CUT COSTS OF . . .

3-DIMENSIONAL SCALE MODELS



Complete plant layouts . . . standard or special machinery and miscellaneous equipment available. Over 12,000 items in stock. Prompt deliveries.

VISUAL PRODUCTION PLANNING, INC.
Connellsville, Pennsylvania

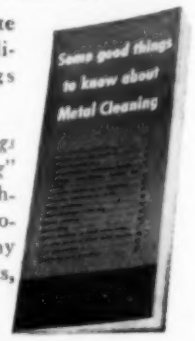
If you write maker identify as IEN - 5445

THIS SAVING HAS BEEN OVER $1,000 A MONTH

No. 95 HAS CUT OUR CLEANING REJECTS BY MORE THAN 90%

1. This estimate came from a manufacturer of precision steel parts after 6 months use of Oakite Special Protective Oil to prevent rusting.

2. From a customer who uses Oakite Composition No. 95 for conditioning zinc-base die castings before plating.



FREE Our booklet "*Some good things to know about Metal Cleaning*" describes efficient Oakite materials and methods for tank and machine cleaning, electrocleaning, preparation for painting and many related operations. Write to Oakite Products, Inc., 16A Rector St., New York 6, N. Y.

SPECIALIZED INDUSTRIAL CLEANING
OAKITE
MATERIALS • METHODS • SERVICE

Technical Service Representatives in Principal Cities of U. S. and Canada

If you write maker identify as IEN - 5446

New, unique electrical quantity recorder!

FIELDEN TEKTOLOG

OPERATES ON NEW PRINCIPLE. Simple electrical meter, with a lightweight vane in place of customary pointer, replaces usual complicated circuitry and mechanisms. Servomotor positions a follower vane, maintains fixed spacing with respect to meter vane, and drives the pen. 50 microamps, 15 millivolts or higher. 1% accuracy. Simple, dependable, low cost. For information, write Dept. JN-103.

fielden
INSTRUMENT DIVISION
ROBERTSHAW-FULTON CONTROLS COMPANY
2920 North 4th Street • Philadelphia 33, Pennsylvania

If you write maker identify as IEN - 5447

RECORDING COUNTERS

REPEAT ORDERS

19 of the largest universities as well as over 40 leading companies in the steel, chemical petroleum and other industries are now using Ametron Recording counters. So satisfied are these purchasers with the speed and accuracies that they have repeated for 5,10 and even 30 counters.

Whether you are interested in counting electrical impulses, time intervals, revolutions or whatever your problem is, our engineering department can work it out for you. In satisfying this variety of industries we have developed a recording counter for almost every type of application. And *remember* these counters give you immediate printed records as they count.

Write for circular SC 12

THE STANDARD OF ACCURACY SINCE 1888

STREETER-AMET COMPANY
4101 N. RAVENSWOOD AVENUE • CHICAGO 13, ILLINOIS

If you write maker identify as IEN - 5448

NOW you can have METERED IDENTIFICATION for formula, inventory and cost controls

STAINLESS STEEL METER
Inside and Out

STOPS CORROSION PROBLEMS HANDLING FOODS, PHARMACEUTICALS, CHEMICALS, OTHER LIQUIDS

This new Rockwell Type 2BC Rotocycle meter is of all-stainless steel construction; corrosion-resistant, easy to clean. It provides accurate records of quantities of liquids handled which are so important in quality control, scheduling, cost accounting and tax analyses. Quantity Control Registers and Remote Registration Systems are available. Described in Bulletin OG-403. *Write Rockwell Mfg. Co., Dept. B-9,* Pittsburgh 8, Pa.

You Can RELY ON ROCKWELL INDUSTRIAL METERS

If you write maker identify as IEN - 5449

BUY JOMAC FOREARM PROTECTION

Why buy expensive gauntlet gloves? Jomac® Safety Sleeves provide better forearm and wrist protection against burns, cuts and lacerations, outwear many pairs of gauntlet gloves, are washable. Write for new illustrated catalog of Jomac products.

C. WALKER JONES CO., PHILA. 38, PA.

If you write maker identify as IEN - 5451

CLEANING . . Wet abrasive machine for use on dies, tools, work parts

Source: R. W. RENTON & CO.
830 Addison Road, Cleveland 3, Ohio

Operator directs nozzle

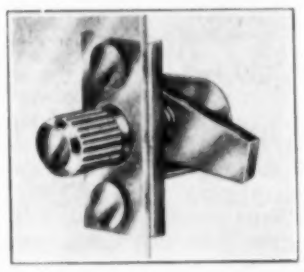
Liquid slurry is picked up by syphon action and is propelled from a blast nozzle inside the housing of this recently improved machine to perform abrasive finishing operations on work pieces positioned by the operator. The machine is available from stock in three standard models and can be specified in other sizes. It mounts the work in stationary position, or on a turntable, and can be equipped with a maximum of eight fixed blasting nozzles. It is available for automatic and semi-automatic operation, in the larger sizes, and can be employed for successive use of two sizes of abrasives to rough clean and to finish.

Abrasive size ranges from 60 to 5,000 standard screen. This abrasive is carried in suspension in a liquid slurry that is handled by a reversible pump located beneath the housing. The slurry can be changed in about five minutes. Size of the abrasive particles, concentration of the solution and distance between nozzle and work can all be varied as well as the air line pressure employed in the operation. The machine will remove rust scale and produce a clean matte surface suitable for painting, enameling, rubber coating or electroplating. Glass and pottery can be frosted, etched, engraved.

If you write maker identify as IEN - 5452

FASTENING . . Rotating latch for use on doors, panels, cover plates

Source: SOUTH CHESTER CORP.
N. Governor Printz Blvd. & 3rd St., Lester, Pa.



For built-in use

Threaded stem with a knurled head mounts in a ½ by 1¼-in. channel shaped plate in this new No. 43 latch. The plate mounts on the inside of a door or panel surface so the knurled knob protrudes through the door. A cross pin at the inner end of the stem holds it in the housing back of the mounting plate with a formed steel grip finger or pawl and a backing spring to complete the latch assembly.

Turning the stem causes the finger to turn in and out of latching position. Continuing the turning movement in closing direction, after the finger is latched, will move it along the threaded stem and apply holding pressure. This axial movement also is employed to adjust the finger for assemblies of varying thickness to a maximum of 25/32 inch. Assembly follows drilling of two rivet or screw holes and the ⅜-in. center hole for the knob to pass through.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5453

RAYTHEON

WELDPOWER*
Welds parts like these 16 hours per day without maintenance

Says **THE RAULAND CORPORATION, Chicago, Ill.**

"We use Raytheon WELDPOWER units to fabricate electron gun parts for cathode ray tubes. We find Model 1-S welding heads highly satisfactory for multiple set-ups. Our equipment has run steadily 16 hours per day for six months with negligible maintenance. We would not hesitate to recommend Weldpower equipment for any small part welding."

Look into the many advantages of assembling ferrous, non-ferrous or dissimilar metal parts with Raytheon Weldpower Control Units. Available in 3 sizes with appropriate Weldpower Heads. Send sample parts or write for details.

Address Dept. 6270 IN-5

*Reg. U. S. Pat. Off.

RAYTHEON

RAYTHEON MANUFACTURING COMPANY
Equipment Sales Division, Waltham 54, Mass.
DISTRICT OFFICES: Boston • New York • Cleveland • Chicago • New Orleans • Los Angeles (Wilmington) • San Francisco • Seattle
INTERNATIONAL DIVISION 19 RECTOR STREET, NEW YORK CITY

If you write maker identify as IEN - 5454

G-E BOXES and COVERS
now available in 170 types

With the recent addition of many new boxes, the G-E line of octagon, square, old-work, Levelock sectional device, and standard bracket boxes and covers now includes more than 170 types. This complete line, including some boxes with and some boxes without cable clamps and plaster-mounting ears, makes it easy to select a box that exactly meets your wiring requirements.

Get full details from your G-E Construction Materials distributor, or write to Section C21-542, Construction Materials Division, General Electric Company, Bridgeport 2, Conn.

You can put your confidence in —

GENERAL ELECTRIC

If you write maker identify as IEN - 5455

Wire Shapes and Forms TO YOUR SPECIFICATIONS

● Your wire forms are produced fast, accurately and at low cost with Sommer mass-production methods.

Speedy, automatic plating equipment handles either large or small assemblies. Popular new Zinc Iridite process adds a bright, durable, economical finish.

Sommer offers complete forming, stamping, cut-threading and butt-welding services. Let us work with you in designing and producing any wire shapes or forms needed for your defense contracts. Send sample, blueprint or drawing—see how Sommer can save you time and money.

SOMMER METALCRAFT CORPORATION
300 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

If you write maker identify as IEN - 5456

GOOD NEWS ABOUT WHEELS

NEWS! About how 44 centers and only 22 bearings give a choice of 144 sizes to 12" x 4".

NEWS! About American Steelite® light-weight champs—weighing up to 9 pounds less than ordinary wheels.

NEWS! About American Tread-Lock method—the tread is *Rolled On So It Won't Roll Off!*

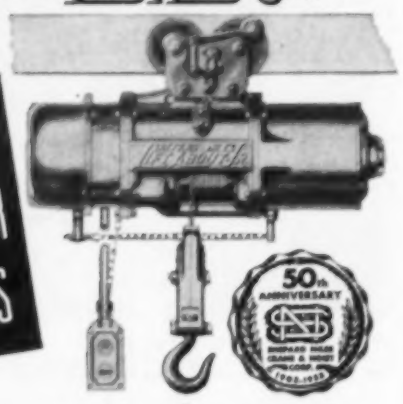
NOW! Get all this NEWS in the NEW bulletin on American Industrial Wheels, from:

THE AMERICAN PULLEY COMPANY, Phila., Pa.

THE AMERICAN PULLEY COMPANY
4240 WISSAHICKON AVE., PHILA. 29, PA.
Gentlemen:
I want the NEWS about Wheels—rush me your new American Steelite® Wheel Bulletin.
Name_____
Firm Name_____
Address_____
City_____ Zone_____ State_____

If you write maker identify as IEN - 5457

SHEPARD NILES "LIFT ABOUT JR."



SOLVES MANPOWER PROBLEMS

- One man replaces many—and moves more goods faster—with a low-cost Shepard Niles Lift About Jr.! This light-weight Electric Hoist frees floor space for production, puts waste ceiling area to work. Loads of 500, 1,000 or 2,000 lbs. are handled easily by an older man, woman or youth.
- Learn how the Lift About Jr. fits into your production picture from a Shepard Niles representative. He'll help you select the right capacity and controls for your handling job. Write for latest bulletins today—and ask to have a representative call.

SHEPARD NILES
CRANE AND HOIST CORPORATION
1027 SCHUYLER AVENUE, MONTOUR FALLS, N.Y.

If you write maker identify as IEN - 5458

Prescription for protection

When you select Ply products to protect your employees from the hazards of industrial processing, you have the satisfaction of knowing you have purchased the very best!

For over 20 years Ply products have been used and proven successful by the nation's leading industrial plants. If you're not already using Ply products, it's time to get the facts now!

Write today for literature and samples

PLY-GARB clothing is now available in plastic woven materials that assure complete protection, long wear and comfort.

PLY-GLOVS are plastic coated and will protect your workers hands from water, acid, caustics, petroleum—and all chemicals except M.E.K. solvents.

THE MILBURN COMPANY
DETROIT 7, MICHIGAN

If you write maker identify as IEN - 5459

Keep floors dry and safe with Carey Asbesto-Sorb

oil-grease-liquid *absorbent compound approved by Underwriters' Laboratories, Inc.*

Let thirsty, fire-resistant Carey Asbesto-Sorb "soak up" danger underfoot—keep your floors dry and safe, prevent accidents. Recommended for use on all floor surfaces. Economical, a little absorbs a lot! Ask your Carey Industrial Sales Engineer for a sample—or mail coupon today

Send for **FREE** *Sample!*

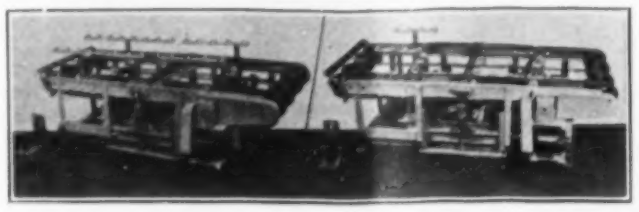
SERVING INDUSTRY SINCE 1873
Carey

THE PHILIP CAREY MFG. CO.
Dept. AS-3, Lockland, Cincinnati 15, Ohio
Please send me FREE sample of Asbesto-Sorb
Name
Company
Address
City Zone State

If you write maker identify as IEN - 5460

CONVEYING . . Portable machine to handle cut strip back of a shear

Source: FRIED STEEL EQUIPMENT MFG. CO.
526-30 E. 119th St., New York 35, N. Y.



Mounts its own motor drive

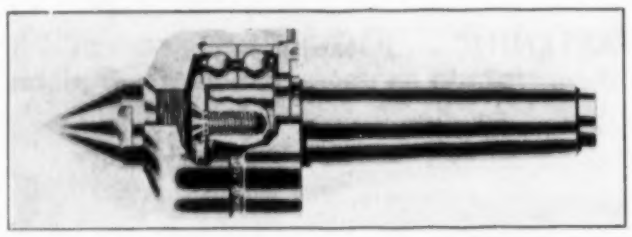
Coilveyor is a new portable combination of motor driven conveying belts and plunger elevated ball assemblies. The assembly receives cut lengths of strip stock as they come from a shear, supports them while they are being cut and lowers them to the belts to be conveyed away. The machine is mounted on casters in a center frame and is equipped with hand operated elevating and lowering jacks so it can be brought into position on adjustable stationary supports at its four corners.

The ball units are mounted in sections on air operated plungers to move up for work support and down to transfer the cut pieces to the steadily moving belts. The machine will handle strips to 6 ft. in length and from 20 to 48 in. in width. It is a companion unit to the previously developed Stripveyor and Liftveyor equipment for handling work at a shear.

If you write maker identify as IEN - 5461

LATHE CENTER . . Anti-friction with No. 1 to No. 5 Morse taper shank

Source: READY TOOL CO.
554 Iranistan Ave., Bridgeport 5, Conn.



Accurate within 0.0001 inch

The head and center point in this new Shank Type center rotate on rather than in the shank. Support is provided by a duplex assembly of single-row angular contact ball bearings clamped in position. The bearings are preloaded to resist both thrust and radial deflection. Chips cannot penetrate into the bearings. Lubricant cannot escape. The high speed steel point is replaceable. It can be specified in any desired shape.

Identify as IEN - 5462

The rat repellent material, Good-Rite zac., has completed a series of tests in a rat infested area under supervision of the Department of the Interior according to a report from B. F. Goodrich Chemical Company. The material was employed to impregnate portions of paper board boxes, bags, burlap and other packaging materials. The rats ate large holes through untreated areas. They left the treated areas untouched.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5463

NOW . . . FOR THE FIRST TIME! At low cost

A Light Capacity Overhead Conveyor, fully enclosed, continuous powered.

CHAINVEYOR *Features*

Simplicity—Engineered to eliminate complicated, fast wearing parts, Chainveyor is revolutionary in simplicity of design.
Track—1⅝"x ⅛" slotted steel tube easily installed with minimum support.
Chain—Full ball bearing wheels mounted on steel side links, heat-treated for long life.
Curves—15" radii provides extreme flexibility.
Take-Up—Adjustable spring take-up automatically maintains uniform chain tension.
Vari Speed Drive—Positive sprocket tooth drive with easily replaceable shear pin protection.
Capacity—30# per pendant at 6" intervals, 60# at 12" intervals when supported by 2 pendants with cross bar attachment.—up to 400# chain pull.

DISTRIBUTORS IN ALL PRINCIPAL CITIES

If your conveyor requirement falls within its capacity—INVESTIGATE CHAINVEYOR. It is truly revolutionary in the materials handling field. Write today for full information. Dept. G

United States Spring & Bumper Co.
4951 Alcoa Box 2475 Terminal Annex
Los Angeles 58, California

If you write maker identify as IEN - 5464

The ease with which your equipment may be guided, and the smooth operation of the positive swivel, will continue over a long life of satisfactory service if you use

Darnell Casters

DEMAND DARNELL DEPENDABILITY

Write for Free Darnell Manual

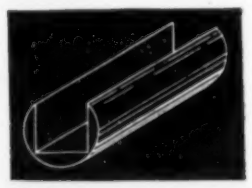
DARNELL CORPORATION, LTD.
DOWNEY (LOS ANGELES COUNTY) CALIFORNIA
62 WALKER STREET, NEW YORK 13, NEW YORK
36 NORTH CLINTON STREET, CHICAGO 6, ILLINOIS

If you write maker identify as IEN - 5465

Lower TOOLING COSTS WITH SLOTTED SLEEVES

An Easy Method of Installing Tool Bits In Boring Bars, Tool Holders and Cutter Heads

No longer is it necessary to spend hours in filing square or rectangular holes when installing tool bits in boring bars, tool holders and cutter heads. With "Novi" Slotted Sleeves, you just ream a hole to fit the sleeve. Then drill and tap two more holes—one to hold the tool in place and the other for adjustment. All done in a matter of minutes!



Made in sizes for tool bits 3/16" to 1" wide and 1" to 4" long

See Your Local Distributor or Write for Literature

NOVI TOOL & MACHINE CO.
43043 Grand River Novi, Mich.
H56

Novi SLOTTED SLEEVES

If you write maker identify as IEN - 5466

We're Testing *Everseal*

INVISO

The Invisible Water and Moisture Repellent!

The U.S. Army and U.S. Navy subjected Inviso to severe tests—and found it to be completely water repellent. It can be used on exterior masonry—equally effective on cinder block. Comes ready for easy application by spray gun or brush.

Some Other Products for Good Maintenance

1. FRIGID SEAL. Sealing and caulking compound which remains workable to 92°F. below freezing.	**2. EVERKROME.** Rust-inhibiting primer. Outdates ordinary red lead paints.	**3. CINDER BLOCK PAINT.** Seals the surface with weatherproof and decorative finish.
4. RUBBER BASE ENAMELS. Acid, alkali and water-resistant coatings for use on any surface.	**5. ANTI-FUNGUS PAINTS.** Extremely resistant to mildew and fungus. Colors.	**6. 3-WAY FLAT WALL PAINT.** Primes, seals and finishes all surfaces in one coat.

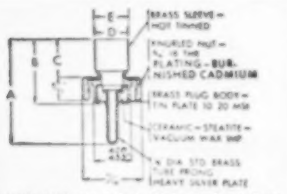
Send For More Information Today!

Clip this ad to your letterhead and mail to: C

Everseal MANUFACTURING COMPANY, INC.
250 WEST 57th STREET • NEW YORK 19, N. Y.

If you write maker identify as **IEN - 5467**

Ideal for
ANTENNA CONNECTIONS
PHOTO-CELL WORK
MICROPHONE CONNECTIONS

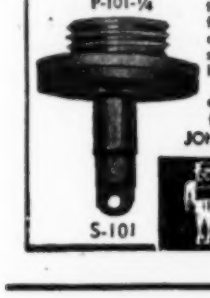


SUPPLIED IN 1 & 2 CONTACT TYPES

JONES
SHIELDED TYPE
PLUGS & SOCKETS

P-202-CCT

P-101-¼



S-101

S-202-B

LOW LOSS PLUGS AND SOCKETS FOR HIGH FREQUENCY CONNECTIONS

For quality construction thruout, and fine finish, see diagram above.

101 Series furnished with ¼", .290", 5/16", ⅜", or ½" ferrule for cable entrance. Knurled nut securely fastens unit together. Plugs have ceramic insulation; sockets bakelite. *Assembly meets Navy specifications.*

202 Series Phosphor bronze knife-switch type socket contacts engage both sides of flat plug contacts—double contact area. Plugs and sockets have molded bakelite insulation.

For full details and engineering data ask for Jones Catalog No. 18.

JONES MEANS *PROVEN QUALITY*

Jones — HOWARD B. JONES DIVISION
CINCH MANUFACTURING CORPORATION
CHICAGO 24, ILLINOIS
SUBSIDIARY OF UNITED-CARR FASTENER CORP.

If you write maker identify as **IEN - 5468**

Well Stacked!

Write for our catalog

EMI

BUILDS ALL TYPES OF INDUSTRIAL STACKING RACKS

Pallet Racks
Stock Racks
Coil Racks
Roll Racks
Tire Racks
Stock Boxes
Scrap Boxes
Dolly Trucks
etc.

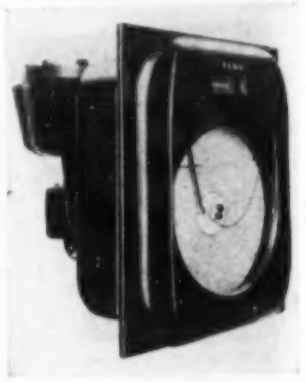
EQUIPMENT MFG. INC.

21564 Hoover Road • Detroit 5, Michigan

If you write maker identify as **IEN - 5470**

METER . . Mercury manometer design, seven ranges to 750 in. differential

Source: PENN INDUSTRIAL INSTRUMENT CORP.
4108-12 Haverford Ave., Philadelphia 4, Pa.



Ask for Catalog 915

The float that rides the mercury in this new Magna-Clutch meter is connected magnetically to the operating mechanism through the sealed mercury chamber. There is no mechanical connection and no packing box as a result. The meter is suited particularly for lines handling toxic, corrosive and flammable fluids because no leakage is possible. The mechanism can be inspected and cleaned without disconnecting the pressure piping.

Overall range is from 20 to 750 in. of differential pressure by means of seven interchangeable range tubes. A bell-style assembly is available also for low ranges between 4 and 10 in. of water. The instrument is available for recording, integrating, pneumatic transmitting and controlling. Static pressure capacity is to 2,500 pounds.

If you write maker identify as **IEN - 5471**

FLOORS . . Concrete sealing liquid penetrates and presents hard surface

Source: UNITED LABORATORIES INC.
16803 Euclid Ave., Cleveland 12, Ohio

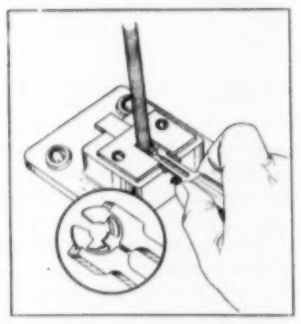
Instruction sheet upon request

Transvar 266 is a new transparent varnish-base liquid to apply on a concrete floor with a hair broom or rag mop. The liquid penetrates the concrete, stops dusting, presents a hard surface film resistant to abrasion. One or two coats are applied at the start, additional coats, during a period of service, to preserve the surface. Coverage is about 300 sq. ft. per gal. in two coats. The liquid dries in four to eight hours. Oil, grease, ink, dirt can be wiped off.

If you write maker identify as **IEN - 5472**

FASTENING . . Assembly tool for company's Truarc retaining rings

Source: WALDES KOHINOOR INC.
47-18 Austel Place, Long Island City 1, N. Y.



Folder shows action

Machined base to take a rod-centered stack of Truarc E-Rings applies with a new hand tool to assist in handling the rings for assembly purposes. The tool picks one ring at a time from the bottom of the stack and holds it for positioning in an assembly. Rings can be fed in sizes from No. 9 through No. 50 from the base by means of the new tool. These rings are in the company's Series 5133.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 5473**

PORT-A-PONY
FEATHERWEIGHT PORTABLE
PIPE THREADER

Here is a power pipe threader you can carry to the job in one hand. Weighing only 26 lbs., Port-A-Pony offers efficient pipe and conduit threading on all installation and maintenance work. You'll like the way Port-A-Pony threads any ¼" to 4" pipe on the job. The ½ hp reversible motor operates on 110V, AC or DC. Use your present die stocks.

Write for full information today.

THREAD-EZY MFG. CO.
333 N. SHIAWASSEE ST.
CORUNNA 2,
MICHIGAN

If you write maker identify as **IEN - 5474**

modernize materials handling with

CARGOTAINERS

Cargotainers are designed to keep pace with modern methods of materials-handling because they are: 1. Sturdy and resistant to shock; 2. Readily folded when not in use; 3. Open mesh so that contents may easily be seen for quick inventory; 4. Efficiently designed for shipment, assembly line use, and vertical storage. Write for information concerning the new CLEARVIEW model with its exclusive base construction for greater durability and better locking and stacking. Dept. IEN, Pittsburgh Steel Products Co., Grant Bldg., Pittsburgh 30, Pa.

Pittsburgh Steel Products Company
A Subsidiary of Pittsburgh Steel Company

If you write maker identify as **IEN - 5475**

5 REASONS FOR CALLING CORDS LTD.
For Cords and Cord Sets

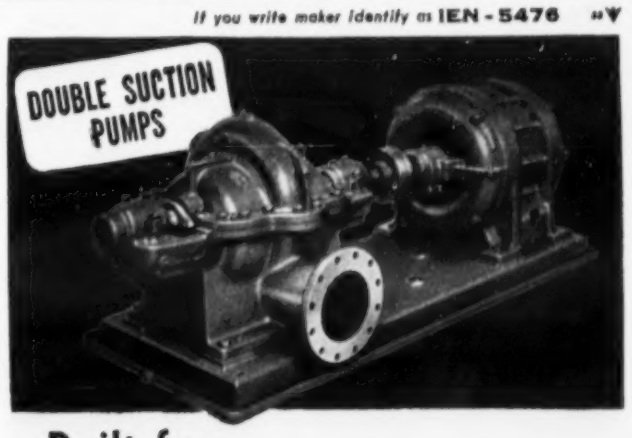
- ★ Fast delivery on cords of standard construction.
- ★ Complete engineering and manufacturing service on cords for special applications.
- ★ Integrated engineering-production control from rod mill to mold department.
- ★ Most comprehensive stock of dies and molds for electronic cords and assemblies in existence.
- ★ Quality proved by use on millions of products.

Write for details, explaining your application

WIRE SX PRODUCTS

CORDS LTD.
DIVISION OF ESSEX WIRE CORPORATION
121 DODGE STREET, DE KALB, ILLINOIS

If you write maker identify as **IEN - 5476**



Built for LOW MAINTENANCE

GENEROUS CONSTRUCTION with extra metal thicknesses, extra strong parts, extra construction features and extra careful workmanship means lower pumping costs for you. Every pump tested on most modern equipment in industry. Each installation individually engineered.

Horizontally split casing, ball bearings, balanced impeller, wearing rings, hand finished water passages, cast shaft sleeves, generous stuffing box length. Choice of iron, bronze, stainless steel.

Standard sizes from 10 to 7000 gpm with 475 foot head. Larger sizes available. For complete information, call your Allis-Chalmers Office, or write Allis-Chalmers, Milwaukee 1, Wisconsin for bulletin 08B6146.

A-3320

ALLIS-CHALMERS

If you write maker identify as IEN - 5477

ACE-HIDE

UNBREAKABLE RUBBER-PLASTIC 3-GAL. PAIL

3-GAL. PAIL

1-QUART DIPPER

For handling corrosive solutions. Tough, resilient, practically indestructible. Made of a new synthetic rubber-base material called ACE-HIDE, unaffected by most acids and alkalies. Drip-proof spout pours easily directed stream. Graduated scale inside pail. ORDER NOW from your rubber goods distributor, or write us.

ACE rubber and plastic products

AMERICAN HARD RUBBER COMPANY

93 Worth St., New York 13, N. Y.

If you write maker identify as IEN - 5478

HARD-HITTING! RUGGED! COMPACT!

"Super Slugger"

The Electric Hammer With The Neoprene "Cushion-Snap"–

NO KICK!

7½ LBS.

LIGHT-WEIGHT

HEAVY-DUTY

NEW TYPE HAMMER Delivers "Terrific Wallop"!

CHECK THESE ADVANTAGES—

New method of impact motion ✔ Hard hitting, powerful blow ✔ No kick on armature or operator ✔ Rugged, finest materials ✔ Dependable performance ✔ Compact, fits tight places ✔ Light weight — one hand operation ✔ Portable-plug in anywhere (A.C. or D.C.) ✔ Adaptable — with tools for every kind of work ✔ Easy maintenance, simple lubrication ✔ Keeps cool with built-in fan ✔ Power head can be rotated 180° ✔ Low in cost — can save time, trouble, money for you!

DOES HUNDREDS OF DIFFERENT JOBS

Drills Concrete • Drills Masonry • Cuts Sheet Metal • Chips or Channels Concrete or Metal • Cleans Mortar Joints • Scales Rust • Strips Old Flooring • Caulks Soil Pipe • Cleans and Peens Welded Joints

Write FOR CATALOG On "Super Slugger" and Line of Tools

Manufactured by Noble & Stanton, Inc., Bedford, Ohio

TEMPO PRODUCTS CO.

1900 EUCLID AVE. • CLEVELAND 15, OHIO

☐ Please Send Catalog, Prices and Complete Data

☐ Please Arrange Demonstration of Super Slugger

NAME _____ TITLE _____

COMPANY _____

STREET _____

CITY _____ STATE _____ C

Dealers—Write for Information

If you write maker identify as IEN - 5480

GAGE . . Pneumatic instrument reads deviation from set dimension

Source: PRATT & WHITNEY
49 Charter Oak Blvd., West Hartford 1, Conn.

180 degree scale

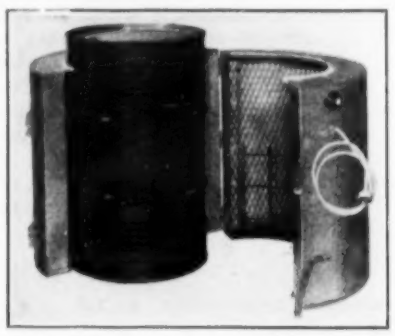
Magnification is 10,000 to 1 in this new Model-G Air-O-Limit Comparitor. The instrument employs a new amplifying unit with an adjustable restriction and a 5-in. indicating dial. Full scale equals 0.0008 inch. Each division represents ten millionths. A second instrument, similar to the first provides for one-half the magnification so each division is twenty millionths and full scale equals 0.0016 inch.

Hand gaging attachments are available for work in which it is better to move the plug. It is secured in a Jacobs chuck adapter in the instrument housing.

If you write maker identify as IEN - 5481

HEATING . . Electric jacket for standard 30 and 55 gal. drums

Source: HAROLD L. PALMER CO.
2978-82 W. Davison Ave., Detroit 6, Mich.



Melts the contents

New size has been added to the company's electric Drum Warmer, previously described IEN-11749-49. The new unit takes 30-gal. standard steel drums as compared to the original unit which takes the 55-gal. size. In both cases, the unit hinges to closed position around the drum to surround it with insulated electric heating elements to warm the contents.

Both units are available for operation on 220 to 440-volt single or three-phase ac. A thermostat is part of the standard equipment and can be specified for temperatures to 250 deg. F.

Identify as IEN - 5482

Sten-C-Labl is a 1¾ by 4 in. stencil sheet in combination with a piece of carbon paper faced with parchment paper. You strip off the parchment and "plant" the carbon and stencil over the location on a bill of lading, or an invoice, where you will type the receiver's name and address. You type with your machine set in "stencil" position to complete the address and also to make a stencil. You strip the stencil and apply it on an inked stamp to make as many duplicate addresses as you need. Sten-C-Labl Incorporated is the maker.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5483

KENNAMETAL "BUTTON" TOOLS

UNBUTTON Production Tie-Ups

Get acquainted with this new tooling technique that handles jobs ranging from profiling to planing—gets more work done with less carbide, uses simplified tool designs, and greatly reduces grinding expense. Here are typical applications:

PLANING: Machine tool builder reports heavy duty button tools cut time of planing 15-foot gray iron castings from 86 to 41 minutes.

BORING: Car wheel maker records up to 200 wheels bored before set of four heavy duty Kennametal buttons need resharpened.

PRODUCTION JOB: Tractor accessory shop faces to length and chamfers both ends of more than 3600 actuating cylinders with set of three buttons.

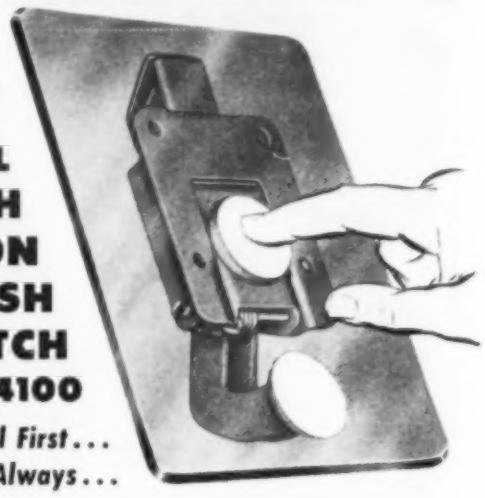
Performance reports on these and other "button-tooled" jobs will be sent—or our field engineer will give you complete information—on request. Kennametal Inc., Latrobe, Pa.

KENNAMETAL
CEMENTED CARBIDE TOOLING THAT INCREASES PRODUCTIVITY

If you write maker identify as IEN - 5484

New

HARTWELL PUSH BUTTON FLUSH LATCH H-4100



Functional First . . . Attractive Always . . .

HARTWELL sets a new pattern for the future with efficient, economical *push button* latches that are FLUSH—SELF-CLOSING—EASY TO OPERATE—SIMPLE TO INSTALL.

These modern latches are operated by a natural rotation of the hand for push and lift positive action. As the forward button is depressed, the rear button raises, providing a sturdy grip for opening the door.

Ideal for commercial, industrial, automotive, aircraft, marine and railroad applications.

Write for engineering specifications and counsel.

HARTWELL COMPANY

Manufacturers of Flush Latches and Hinges, Fittings and Cable Terminals.

9035 VENICE BOULEVARD, LOS ANGELES 34, CALIFORNIA

If you write maker identify as IEN - 5485

NOW

BUDA DIESEL FORK TRUCKS

14 MODELS— CAPACITIES to 7500 lbs.

ONLY BUDA GIVES YOU . . .

- LOWER OPERATING COST . . . 50 to 60% Fuel Savings with Diesel Power
- LESS MAINTENANCE
- GREATER SAFETY—Non-toxic, non-contaminating exhaust
- LONGER OPERATION—Between Overhauls

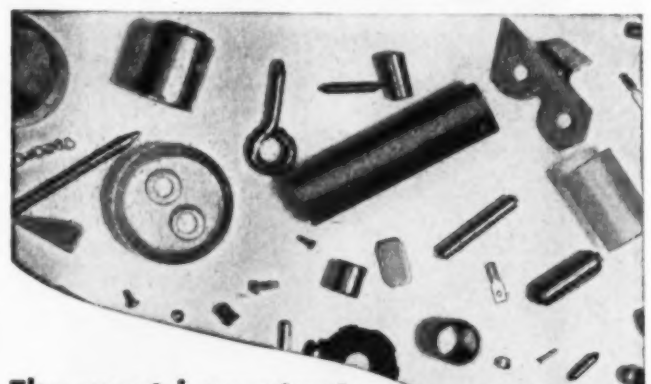
Ask your nearby Buda Material Handling Distributor about the new Buda "FT" Series Diesel or gasoline powered Fork Trucks today. Write for new, colorful Bulletin 1570. It's FREE—there's no obligation. The Buda Company, Harvey, Illinois.

The Line with all 3 for Diversified Handling

BUDA

Manufacturers of Material Handling Equipment, Lifting Jacks, Maintenance of Way Products, Earth Drills and Diesel and Gasoline Engines BB-37A

If you write maker identify as IEN - 5486



The most important parts in industry pass through

KRAUS HOPPERS

Let Kraus help you develop the right hopper, chute and assembly machines to handle the parts that make up your product. Send sample pieces for quotations today.

kdi

Kraus Design, Inc.
948 Exchange St.
Rochester 8, N. Y.

If you write maker identify as IEN - 5487

It is vital to maintain QUALITY!

Please remember that felt is not just felt, but is an engineering material, which can and should be specified as closely as any other. It is obvious that glass-polishing felt must be different from cushioning felt, but there are finer distinctions which should be taken into account if satisfaction is to be assured.

American, the largest and oldest felt manufacturer, makes 700 different mechanical types, each having exactly-controlled characteristics. For any given application there is a specification felt that is right for the job. To select this felt and establish it as a standard is your assurance of satisfaction with your product or process.

Like other materials, felt should be bought not on price, but on the quality required for a given application. If you will do that by adhering strictly to specifications and material standards you will find felt, American Felt, will serve you supremely well in protecting the reputation of your products. Our engineers will be glad to collaborate with you on establishing the correct specifications, and our mills will adhere strictly to those specifications when your order is received.

American Felt Company
TRADE MARK

GENERAL OFFICE: 18 GLENVILLE ROAD, GLENVILLE, CONN.

If you write maker identify as IEN - 5488

Specialized and Multi-purpose

INSTRUMENTS

for **RESEARCH·PRODUCTION·MAINTENANCE**

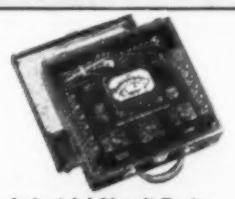
For complex, or just routine measurement jobs, these and other specialized WESTON Instruments save time and assure dependable measurements. For information on the complete line, see your local Weston representative, or write . . . WESTON Electrical Instrument Corp., 614 Frelinghuysen Ave., Newark 5, N. J.

Model 622
Ultra-Sensitive Instruments

Portable d-c and a-c thermo instruments for precision measurement of potentials and minute currents in electronics or laboratory research.

Model 901
Portable Test Instruments

Available in d-c, Model 901—and a-c, Model 904, single and multiple ranges of wide coverage. Excellent scale readability and shielding. Accuracy within ½ of 1%.



Industrial Circuit Tester
Model 785

A multi-range, multi-purpose, ultra-sensitive analyzer, for laboratory and industrial checking of electrical and electronic circuits. Has 28 practical scale ranges; measures d-c and a-c voltage, d-c and a-c current, and resistance. Accessories available to extend ranges. Compact and portable; furnished in either oak or steel case.

High Frequency Electronic Analyzer—Model 769

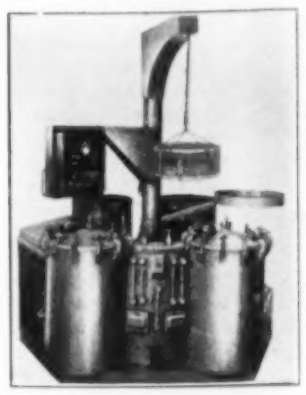
A three-in-one instrument providing a self-contained Volt-Ohm-Milliammeter, a high impedance electronic D-C Volt-Ohmmeter, and a probe type Vacuum Tube Voltmeter for use to 300 megacycles. Exceptionally stable and accurate. Has specially designed extremely small RF and D-C probes.

WESTON
Instruments

If you write maker identify as IEN - 5490

SEALING . . Handling equipment and sealing liquid for porous castings

Source: AMERICAN METASEAL MFG. CORP.
30 E. 60th St., 6th Floor, New York 22, N. Y.



For specified work

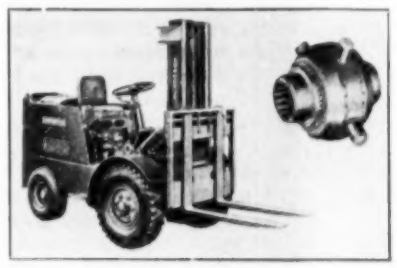
Revolving crane in this new sealing equipment is mounted on a platform which also carries two pressure-vacuum autoclaves, a vacuum pump, and two thermostatically controlled wash tanks. Castings are loaded into cylindrical baskets to be lowered into the autoclaves where they are sealed and the interior evacuated prior to admitting the sealing resin. This resin flows into any porous area in the castings to fill them completely. The autoclave is then returned to atmospheric pressure, its lid is removed and the hoist employed to lift the load and rotate it for surface cleaning in the tanks provided for this purpose.

Metaseal 19V5 is the resin developed by the company as the impregnant. It is resistant to attack by acids, alkalis, solvents. It is also a good bonding agent and corrosion inhibitor. It is suited for use on bronze, stainless steel, aluminum, magnesium as well as cast iron and carbon steels. The company also supplies the emulsion type cleaner to remove excess resin from the work surfaces. The two autoclaves and two cleaning tanks permit loading and unloading without waiting.

If you write maker identify as IEN - 5491

TRUCK . . Engine driven fork lift, travel drive to maintain traction

Source: TOWMOTOR CORP.
1224-28 E. 152nd St., Cleveland 10, Ohio



To specification

New assembly of the Model LT-50 fork lift truck now includes the NoSpin differential that has been in successful service on highway trucks and vehicles over a period of years. This differential prevents spinning by either drive wheel in the event that it loses traction. It also compensates for differences in wheel speeds when turning in either direction. The construction can be specified as original equipment on new Model LT-60 trucks. It can be interchanged with the differential on trucks of the same model that are now in service.

The differential consists of two pairs of clutch teeth and two pairs of cams arranged so both are fully engaged when the truck is traveling in a straight line. The teeth and cams prevent either wheel from rotating more slowly than ring gear speed. If one wheel loses traction on a soft or slippery surface, the opposite wheel, which still has traction, continues to propel the truck until both wheels are again gripping the roadway. Driving torque cannot force one wheel to spin faster than the other. The action is the same both forward and reverse when traction is lost.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5492

THE MATEER ELECTRIC FILLER HANDLES THEM ALL!

LIQUIDS · OILS · POWDERS · PASTES

COMBINED LIQUIDS AND SOLIDS

1/500 oz. to 2 pounds
20 to 70 Per Minute
Up to 750° F.

SAVE TIME AND MONEY WITH THE MATEER ALL ELECTRIC FILLING HEAD

Totally enclosed, manual or automatic. Accuracy as close as ±½%. Synchronize this self contained filling head with existing production lines and processing systems.

Jacketed and electrically heated hoppers available for handling cold or hot materials up to 750° F.

Hot waxes, insulating compounds and asphalts handled without difficulty.

Send full information and samples of material to be tested. Write Dept. 106 for fully illustrated bulletin.

G. DIEHL MATEER & CO.
Lincoln Highway • Devon, Pa.

If you write maker identify as IEN - 5493

CUTTING COSTS WITH ALLMUL

"B&W ALLMUL Firebrick lasts 6 times longer"

Semi-mullite brick bungs in the hottest part of a butt welding furnace spalled badly after six weeks. Allmul bungs in the same location were still going strong after 39 weeks—in better condition than the semi-mullite bungs after six weeks. Yet Allmul cost little more than the original semi-mullite refractory. As a result, Allmul is now used in uptake arches, uptake side walls and crossovers.

Bulletin R-29 gives all the facts on B & W Allmul. Write for your copy.

THE BABCOCK & WILCOX CO.
Refractories Division
GENERAL OFFICES: 161 EAST 42nd ST., NEW YORK 17, N. Y.
WORKS: AUGUSTA, GA.

If you write maker identify as IEN - 5494

production flows smoothly...
at top speed, at all times, yet free of rejects

Kester makes 62 different fluxes to meet any requirements. Why not write our Technical Department for full information?

KESTER SOLDERING FLUX

KESTER SOLDER COMPANY
4211 Wrightwood Ave., Chicago 39
Newark 5, N. J. • Brantford, Canada

KESTER SOLDER

If you write maker identify as IEN - 5495

WHICH OF 1001 USES FOR THIS METAL HOSE IS YOURS?

Are you overlooking an opportunity to improve the performance, life, or salability of your equipment with metal hose?

Yours may be one of the hundreds of undiscovered uses for metal hose—especially for flexible, pressure-tight TITEFLEX® Metal Hose.

The special construction of Titeflex, and the variety of alloys, sizes, and fitted lengths enable you to combat severe temperature, pressure, and corrosion conditions where a flexible connection is necessary.

For maximum results, ask us for design suggestions and help in hose selection.

Titeflex Let Our Family of Products Help Yours

MAIL COUPON TODAY

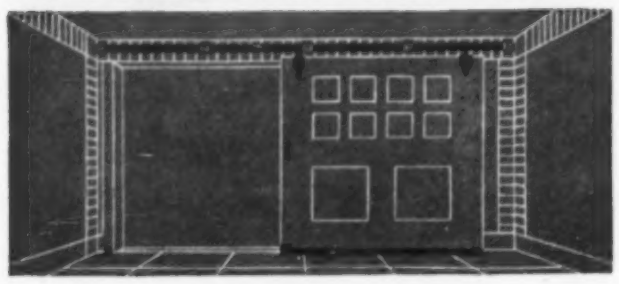
TITEFLEX, INC.
506 Frelinghuysen Ave., Newark 5, N. J.

Please send me information about Titeflex Metal Hose and its applications.

NAME _____
TITLE _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

If you write maker identify as **IEN - 5496**

COBURN
SLIDING DOOR HARDWARE



- . . . LOW INSTALLATION COST
- . . . SMOOTH, EASY OPERATION
- . . . LONG, TROUBLE-FREE LIFE
- . . . ADAPTABLE FOR BOTH NEW AND REMODELING JOBS

Sliding door hardware for industrial applications of all types: Straight-sliding, sliding-folding, around-the-corner, roundhouse and fire doors.

For additional information write to Sales & Engineering, 56 Sterling St., Clinton, Mass. or consult your classified telephone directory.

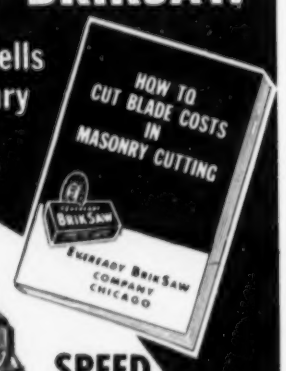
THE COLORADO FUEL & IRON CORPORATION—Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION—Oakland, California
WICKWIRE SPENCER STEEL DIVISION—Clinton, Massachusetts

COBURN PRODUCTS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL & IRON CORPORATION

If you write maker identify as **IEN - 5497**

Get More Heats Per Lining with EVEREADY BRIKSAW

This FREE BOOK Tells How to Cut Any Masonry Material in SECONDS!

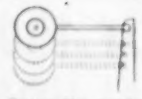


WET *(DUSTLESS)* OR DRY CUTTING

SPEED REPAIR WORK

Get that FURNACE—KILN—OR BOILER back in operation fast! Cut **any** Fire Brick in **seconds** with a BRIKSAW . . . and "BRIKSAW CUT" Reline Jobs **last longer** — give more heats.

EXCLUSIVE BRIKSAW FEATURES

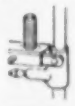


"Adjusta-Height" lets cutting head change elevation for materials of varying thickness . . . adjusts in 4 seconds.

Swing the cutting head to any desired position with this "Toe-Matic" foot treadle. Fast shift from one type of masonry material to another.

One-piece cutting head for immediate, easy portability. Off the saw frame in 21 seconds flat!

Automatic pressure control for the blade. Adjusts cutting pressure to hardness or softness of material.



EVEREADY
- ABRASIVE
- DIAMOND
- "TUFFIE"

BLADES

Your local Distributor carries EVEREADY Blades to best cut any masonry or fire brick material . . . for every make and model Masonry Saw. Order your EVEREADY Blades from local stocks.

WRITE FOR NAME OF NEAREST DEALER

CUT Special Shapes—
SKEWS—SPLITS—ANGLES
from Standard Shapes

Any shape, any size . . . **cut in SECONDS** from Standard Refractory stocks or from culls you formerly discarded. Cut to precision sizes . . . do a better, faster job of relining. **Save** Material . . . **Save** Time . . . **Save** Money!

There's an **EVEREADY** DISTRIBUTOR IN YOUR LOCALITY Write for His Name Now!

EVEREADY BRIKSAW COMPANY
1509A S. Michigan Blvd., Chicago 5, Ill.

Send without obligation of any kind FREE Booklet on "HOW TO CUT BLADE COSTS IN MASONRY CUTTING"

NAME _____
ADDRESS _____
CITY _____ STATE _____
No. EI-13

If you write maker identify as **IEN - 5499**

LATHE ATTACHMENT . . Tracer reproduces template outline on work

Source: JONES & LAMSON MACHINE CO.
12 Bennett St., Springfield, Vt.

Arrow indicates template

New attachment, hydraulically operated, is designed for use on the company's ram type and 7A saddle type universal bar and chucking machines for general tracing, multi-step shaft work and contour work. The mechanism can be engaged and disengaged by turning a switch. Installation can be made in the field. A hardened straight edge set at the desired angle serves as a template or former.

The tool slide is mounted on a 45-deg. angle with the spindle axis. The tracing stylus and the cutting tool are mounted at the back of the cross slide on a bridge type carriage to keep the square tool turret free for other operations on the same work piece.

If you write maker identify as **IEN - 5500**

TRUCK . . Two-wheel hand design with stair climbing rocker arms

Source: AUTOMATIC BENDING CO.
471 E. 159th St., Harvey, Ill.

Fingers add $10

E-Z-Climb trade names new assembly of the company's Series-700 steel or aluminum hand truck in which spring centered rocker arms are mounted on a shaft between and a little back of the two regular wheels. These arms engage the point of a step as the truck is moved up and down a stairway to take the load until the wheels can again contact the stair tread next above or next below. They support the load in the interval to provide smooth action.

Standard height is 46 in. with overall width at 18¾ inches. The nose plate measures 14 by 7 or 9 inches. Load capacity is 600 lb. in standard design of the new truck.

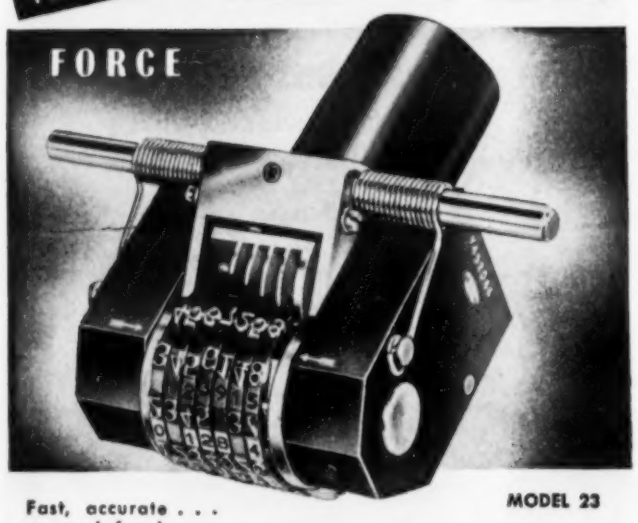
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

Is your catalog file up to date?
New Literature starts on page 82

If you write maker identify as **IEN - 5501**

NUMBERING IN METAL

indenting **NUMBERING HEADS**



MODEL 23

Fast, accurate . . . rugged for heavy power press use. Figures from 1/64" to 3/8" or larger as required.

Write for prices and catalog of all models.

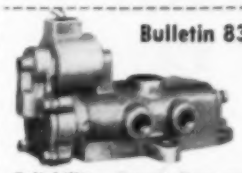
WM. A. FORCE
& COMPANY, INCORPORATED
216 NICHOLS AVENUE, BROOKLYN 8, N. Y.

If you write maker identify as **IEN - 5502**

Want this New Catalog?

NEW ASCO CATALOG
Describes Scores of Solenoid Valves

New Valve Catalog No. 24 brings you up-to-date on the extensive ASCO line of Solenoid Valves (list prices are included). New valves developed and put on the market recently are described in detail *for the first time*. One of these is:



Bulletin 8344 • 4-Way POPPET TYPE Packless Solenoid Valve

This valve has been thoroughly tested as a control unit in equipment requiring "plus" performance. Valve features:

Reliability — Poppet Type construction means this valve will not stick! Power stroke occurs in both directions—no spring return!
Fast Operation—500 cycles/minute continuous duty; 750 cycles/minute intermittent duty (air).
Freedom in Mounting — Can be mounted in any position. Available 4 and 5 port; flow regulation (optional); standard or manifold mounting; 3/8, 1/2, 3/4, and 1 inch pipe size. Handles air, water, or hydraulic oil; maximum pressure 250 p.s.i.

This is just one example of new valve data. If you have *any* need for controlling the flow of liquids or gases in the equipment you are designing or operating, you should find this up-to-date ASCO Valve Catalog useful. Want a copy? Just drop us a note or call up and let us know. We'll be glad to send it to you . . . and extras for your associates if you desire.

We manufacture a complete line of Electromagnetic Controls including Automatic Transfer Switches, Remote Control Switches, Contactors, Relays, and complete Control Panels.

V-S3-1s

ASCO Solenoid VALVES

Automatic Switch Co.
383 LAKESIDE AVENUE • ORANGE, NEW JERSEY

If you write maker identify as **IEN - 5503**

You have a hand in Gibson Electrical Contacts

The experience of hundreds of product engineers — like yourself — is part of the development of Gibson electrical contacts. Study of their needs since 1933 has enabled Gibson Electric Company to produce the right contacts for many exacting applications.

Their confidence in Gibson stems from the success of Gibson engineers in solving the contact problems of original-equipment manufacturers. Let us apply our knowhow — embracing the *one Gibson aim* of developing the finest, most practical and economical contacts and assemblies — to *your* electrical contact problem.

Write for Gibson Catalog C-520. It contains technical information useful to you. But, to be of greatest usefulness, let us work with you to help in solving your contact problem. Send us details.

Contacts Engineered to Your Requirements

Gibsiloy ELECTRICAL CONTACTS
Manufactured by
GIBSON ELECTRIC COMPANY
8353 Frankstown Ave., Pittsburgh 21, Pa.

If you write maker identify as **IEN - 5504**

HEAT SAVER! INSTALLED WITHIN 3 HOURS!

...KEEP WINTER OUT OF YOUR PLANT!

PREST-O-MATIC
The COMPLETE ELECTRICAL DOOR UNIT

NOTHING ELSE TO BUY
•
NO ALTERATIONS REQUIRED
•
PERMIT FULL USE OF DOORWAY WIDTH

Fully automatic, motor-operated, for approach pull-cord, floor plate or electric eye control. Includes doors, frames, ALL hardware and motor operator all ready for installation by plant crew in 3 hours!

OPEN OR CLOSE IN 3½ SECONDS

Designed "in balance" for faultless functioning, unconditionally guaranteed; with or without pass doors. Trial orders have brought scores of reorders from large and small manufacturers. Get Catalog details!

CLARK DOOR COMPANY
519 Hunterdon Street • NEWARK 8, N. J.

If you write maker identify as IEN - 5505

You can depend on

NAYLOR Here is your source for standard fittings for lightweight pipe, special fabrications to meet your specifications on simple or complex layouts, or fabrications of standard weight pipe. Specials range from 3" to 44" in diameter and wall thickness to ¼". All types of materials. Write for Bulletin No. 525.

NAYLOR PIPE COMPANY

1235 E. 92nd Street, Chicago 19, Illinois

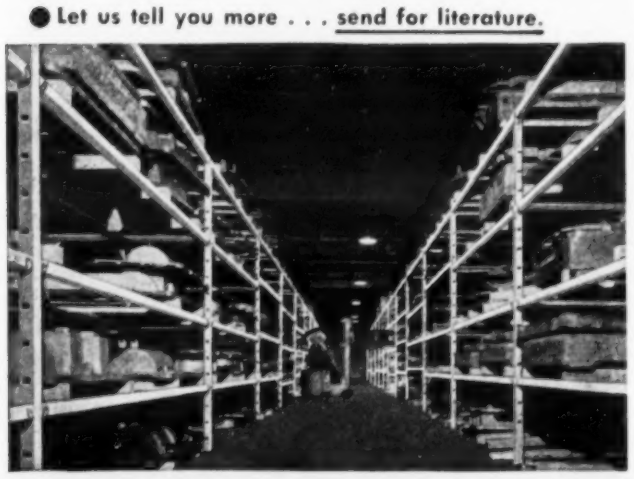
New York Office: 350 Madison Ave., New York 17, N.Y.

If you write maker identify as IEN - 5506

The ONE and ONLY adjust-o-matic RACK

.. and the rack-shelf is in position

- No waste space . . . more storage space per sq. ft.
- Built for any size pallet skid or box.
- Let us tell you more . . . send for literature.



Installation at Westinghouse Electric Corp., Trafford, Pa.

AMERICAN METAL PRODUCTS CO.

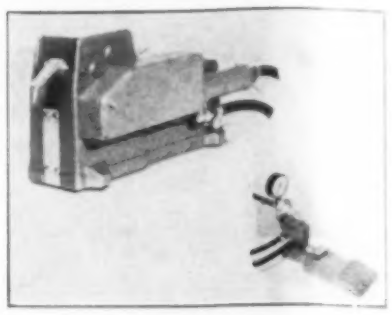
STORAGE RACK DIVISION

5959 Linsdale • Detroit 4, Michigan

If you write maker identify as IEN - 5508

DISPENSING . . Air operated unit for self-adhesive tape, foot control

Source: AIR FIXTURES INC.
353 Manchester Ave., Dept. C, North Manchester, Ind.



Tape issues quickly

Predetermined length of self adhesive tape is delivered quickly by this new dispenser when the operator depresses a foot control pedal. The unit connects to a shop air line and mounts on a bench in an assembly or packaging line. It is available for specified sizes and types of tape. A pressure regulator and gage, in connection with the foot operated valve, is set to give desired action.

If you write maker identify as IEN - 5509

GAGE . . Dial indicator reads to 0.015 in. plus and minus

Source: HOMESTRAND INC.
10 Homes Ave., Larchmont, N. Y.

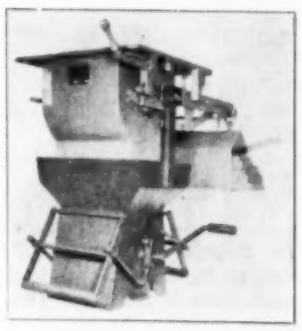
Made in Sweden

New assembly includes an indicator dial reading in thousandths on both sides of zero, an adjustable contact point that can be set through a 180-deg. arc to a desired angular position, a lever that reverses direction of movement of the contact point and a clamp type support. The contact point can be entered into locations normally difficult to reach. The unit can be used in the inspection department or at a machine.

If you write maker identify as IEN - 5510

PACKING . . Bag filling scale to handle free flowing dry materials

Source: BURROWS EQUIPMENT CO.
1314-18 Sherman Ave., Evanston, Ill.

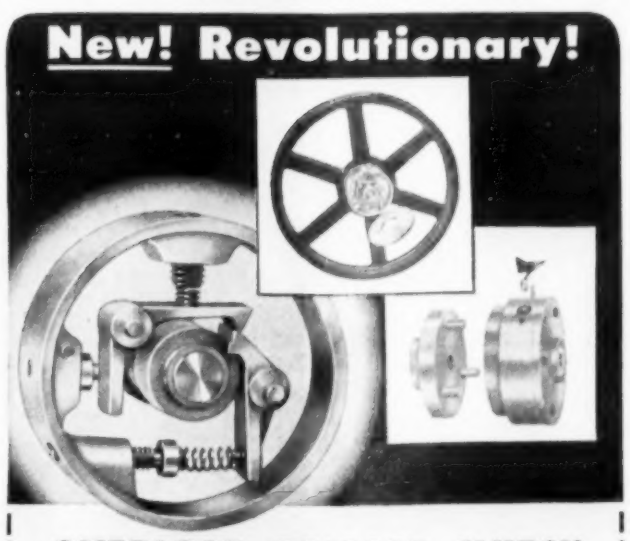


For grains, chemicals

Semi-automatic operation of this new Apex scale will handle from four to six 100-lb. bags per minute with material feed from an overhead hopper. A bag is held by means of the clamp and hopper assembly, previously described IEN-4512-52. The clamp will handle paper, cloth, burlap. The assembly includes an over-and-under indicator and a dust evacuating shield. Adjustment can be made for bags from 25 to 200 lb. in weight overall.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5511



OVERLOAD RELEASE CLUTCH

WORKS *Instantaneously!*

- Instantaneous trigger action
- Works consistently within very close limits
- Your machine will resume operation at exact cycle point of release
- A safety device of universal, industrial application, easily installed on sprocket, chain, belt or gear drives
- Can be used over a wide range of speeds and shaft sizes

Catalog on Request

Overload Release Clutch Co., Inc. 1164 Stuyvesant Ave. Irvington, N. J.

If you write maker identify as IEN - 5512

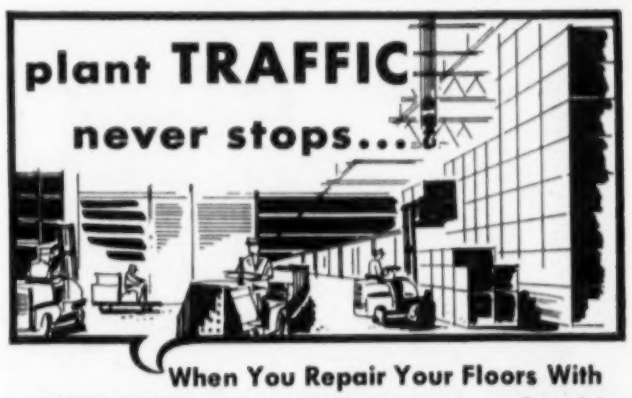
LOGAN AIR AND HYDRAULIC POWER

SPEEDS • COORDINATES • REFINES PRODUCTION
IN OVER 10,000 INDUSTRIAL PLANTS

LOGAN MANUFACTURES 6,975 STANDARD CATALOGED ITEMS • CATALOG ON REQUEST
Consult Logan for your Special Heavy-Duty, Mill-Type Cylinder requirements.

LOGANSPORT MACHINE CO., INC.
813 Center Avenue Logansport, Indiana

If you write maker identify as IEN - 5513



When You Repair Your Floors With PERMAMIX—The All-Temperature Patch!

Permamix gives you a FAST permanent repair on concrete, brick, tile or asphalt floor surfaces. It's long wearing, easy to apply, sets instantly — WILL NOT FREEZE — can be stored indefinitely and used in any temperature. It lowers maintenance costs amazingly.

Here's all you do: Clean area to be patched, apply primer supplied in drum, fill with PERMAMIX just as it comes from the package, allowing sufficient material for slight crown, then tamp solidly and resume traffic AT ONCE.

PERMAMIX feather edges, there's no mixing or waiting — anyone can do it, no special equipment needed. Comes in handy, durable 50 lb. net weight fibre drums and it will not "set" in the package — covered or open. Start patching your floors, with no production delays, the Permamix way today. Send for full details NOW!

PERMAMIX CORPORATION

230 N. LaSalle Street • Chicago 1, Illinois

If you write maker identify as IEN - 5514

SOLVE EXTREME PRESSURE LUBRICATION PROBLEMS

The new miracle molybdenum disulfide lubricant.

Anti-Seize is a stable non-melting, multi-purpose molybdenum disulfide lubricant having a phenomenal capacity to prevent seizing and galling at bearing pressures well over 100,000 pounds per square inch. Anti-Seize will lubricate at temperatures below sub-zero and up to 750 degrees F.

Write today DEPT. IND for new literature and get the complete story.

MANUFACTURERS OF SPECIAL LUBRICANTS

BEL-RAY CO., INC.

MADISON, NEW JERSEY

If you write maker identify as IEN - 5515

SAFETY SOCKET SCREW COMPANY
6508 Avondale Avenue, Chicago 31, Illinois

If you write maker identify as IEN - 5516

One way to identify a good bronze valve is by looking for pressure markings on the valve body. Pounds of pressure and the type of service -- working steam pressure (WSP), water, oil or gas (WOG) -- are cast right on the valve. That's the manufacturer's promise that the valve will serve efficiently when installed. You'll find pressure markings on all O-B valves.

OHIO BRASS COMPANY MANSFIELD OHIO

Ohio Brass VALVES
MANSFIELD, OHIO

If you write maker identify as IEN - 5517

IMPOSSIBLE?
not with ARco
MOLDED RUBBER GOODS
RUBBER INSULATED METAL PARTS

● Rubber-to-metal, dipped, form-dipped, molded, extruded and die-cut rubber components for industrial production . . . assuring electrical and thermal insulation, noise and sound abatement, corrosion and abrasion resistance . . . these products and services enable ARco Engineers in providing industry with economical solutions to "impossible" production problems.
Your product will gain in quality — you can achieve greater economy — by consulting ARco Engineers. Competent recommendations are yours without obligation.

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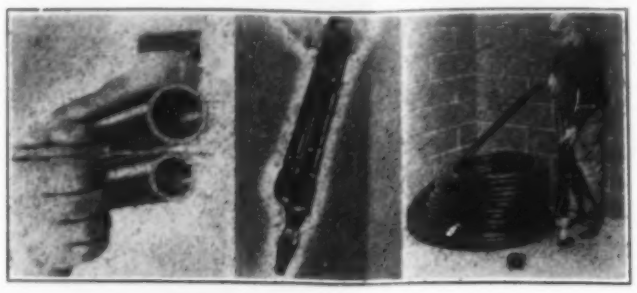
4933 HOMESTEAD ROAD • HOUSTON, TEXAS
ANYTHING CAN BE COVERED WITH RUBBER—BY ARco
MANUFACTURERS • DESIGNERS • ENGINEERS

If you write maker identify as IEN - 5518

PIPE . . Flexible plastic, twin assembly for jet pump use

Source: YARDLEY PLASTICS CO.
140-44 Parsons Ave., Columbus 15, Ohio



Split, cut and attach, insert

Two pipes are extruded simultaneously and are joined with a thin web of the same plastic material in this new Twinduit pipe. Flexibility in the plastic permits coiling as shown in the illustration. Three sizes are 1 by 1¼ in., 1¼ by 1¼ in., 1¼ by 1½ inches. Coils are available in 200 and 240-ft. lengths.

The pipe ends can be cut to fit on a jet pump after splitting the connecting web back with a pocket knife. The ends are then clamped in position and the pump head lowered into a well. The long run of plastic pipe eliminates fittings. The smooth exterior offers no obstruction.

If you write maker identify as IEN - 5519

CONVEYING . . Inclined belt unit, wheel mounted, adjustable for height

Source: SPEEDWAYS CONVEYORS INC.
1244 Niagara St., Buffalo 13, N. Y.

Enclosed drive

The upper end of this new belt conveyor overhangs the wheel equipped floor stand to assist in handling loads over the top of an obstruction or onto a pile. Height can be adjusted by turning a crank to operate a winch that pays out or draws in a roller equipped structure beneath the belt frame. The conveyor is stable in any position, including one with a load concentrated at the upper end.

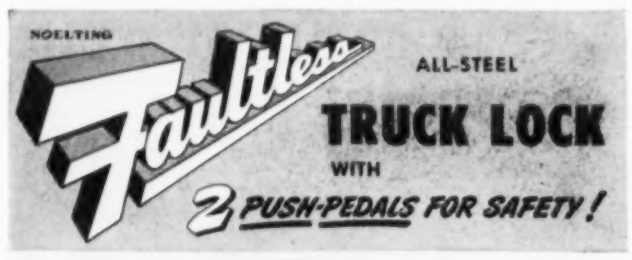
Operation can be in either direction by means of a reversing control. Belt speed is standard at 50 fpm., can be specified as variable. The assembly shown measures 16 ft. between the upper and lower pulleys. It mounts a 12-in. belt. Other widths and lengths are available to order.

Identify as IEN - 5520

American Box Company tells us about a light weight king size shipping box it has designed for machinery units weighing ½ ton. The box measures 93 by 39 by 63 inches. It weighs less, by 35 lb., than the nailed wood crate it replaces. The new box results from the company's development of machinery to stitch heavy gage wire on the large areas.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5521



No more scuffed shoes from rough cast edges. No more soles torn away from shoe tops. Toe presses down on the Faultless Truck Lock —toe *does not lift*. Both foot pedals have non-slip treads for complete safety in operation.

Write for literature and specifications

FAULTLESS CASTER CORPORATION
Dept. IE, Evansville 7, Indiana
Branches in Principal Cities—Canada Factory: Stratford, Ont.

If you write maker identify as IEN - 5522

TYGON *plastic* PAINT
STOPS ACID AND ALKALI ATTACK

Maintenance Men! You can stop corrosion before it starts — protect your plant and equipment from chemical attack — with TYGON plastic PAINT — the positive protective coating. Properly applied, TYGON offers the maximum possible in resistance to both acids and alkalies — and, to oils, greases, water and many solvents as well.

TYGON requires no more than normally good surface preparation — can be applied by brushing or spraying. TYGON dries fast — forms a tough, flexible film that's easy to clean and long-lasting. TYGON is available in wide range of colors — in quart, gallon, 5 gallon, and 55 gallon containers.

Try TYGON — buy TYGON, today, or write for full details and samples.

Plastics and Synthetics Division

U. S. STONEWARE
AKRON 9, OHIO

307C

If you write maker identify as IEN - 5523

Produce MORE STEAM... in LESS SPACE... at LOWER COST!

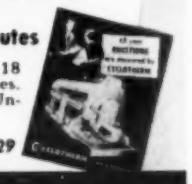
WITH

CYCLOTHERM* CYCLONIC COMBUSTION

● In thousands of installations, Cyclotherm Steam Generators set new standards for performance and economy. Exclusive Cyclotherm flame control produces 66% more power per sq. ft. of heating surface than competitive type boilers and requires only 3 sq. ft. of heating surface per Boiler Horsepower . . . saving up to ⅓ on installation space.

- Guaranteed 80% efficiency
- Complete on arrival. Only 4 easy connections
- Fully automatic controls
- Full power operation in 15 minutes

Cyclotherm Steam Generators are designed for 18 to 500 h.p., 15 to 200 psi operating pressures. Approved—ASME, Nat'l. Board Standards, Underwriters Laboratories, Inc.



*Reg. trade name

Write for free catalog today. Dept. 29

CYCLOTHERM* STEAM GENERATORS
CYCLOTHERM DIVISION UNITED STATES RADIATOR CORP. OSWEGO, NEW YORK

If you write maker identify as IEN - 5524

FORT WORTH STEEL AND MACHINERY CO
DEPT. 25, 3600 McCART, FORT WORTH, TEXAS

If you write maker identify as IEN - 5525

Now...Spring Makers and Spring Users alike have a Uniform Method for Testing Springs!

THE TORRINGTON SPRING TESTER

Uses: for accurate inspection, in-use testing, designing springs for specific uses, and as a basis for statistical quality control.

Simple: can be used at operating levels by relatively inexperienced personnel. Portable!

Accurate: 2 models—the 3 pound model measures loads to the nearest 1/100 ounce, and the 16 pound model to the nearest 1/5 ounce; lengths and deflections to 1/1000 inch.

Fast: requires minimum time to adjust for accurate readings, or to reset for other springs.

Practical: measures under conditions approximating actual use, through interchangeable fittings.

High sensitivity: over a wide range, on both tension and compression types of springs.

For complete information please write:

The TORRINGTON MANUFACTURING COMPANY TORRINGTON, CONNECTICUT

WORLD'S LARGEST BUILDERS OF SPRINGMAKING MACHINERY

If you write maker identify as IEN - 5526

Tape it with Behr-cat®

EASY TO APPLY! No special tools or machinery needed and no special skills. Saves labor costs. Safe, quick sticking BEHR-CAT Strapping Tape No. 211 is the modern way to pack, wrap, and bundle your products for shipment.

PLENTY STRONG, TOO! BEHR-CAT Strapping Tape No. 211 is filament-reinforced to withstand the shocks and rough treatment of any shipping method. Won't damage or scratch surfaces.

TRY A SAMPLE ROLL — Write on your business letterhead to Behr-Manning Corp., Troy, N. Y., Dept. IEN-5.

In Canada: Behr-Manning (Canada) Ltd., Brantford.
For Export: Norton Behr-Manning Overseas Inc., New Rochelle, N. Y., U. S. A.

BEHR-MANNING® *division of NORTON Company*

If you write maker identify as IEN - 5528

PROTECTING . . Plastic enclosure for equipment in production, storage

Source: KAYE-ELIOT INDUSTRIES
50-15 Roosevelt Ave., Woodside 77, N. Y.

Made to order

Transparent polyethylene plastic, 4-gage in thickness, is employed in fabrication of made-to-order machinery and equipment covers or enclosures. They slip down over each unit to protect it while it is standing idle between stages of production or in storage. There is no limit to the overall dimensions. A cover that measures 2 by 6 by 4 ft. lists at $8.90. One measuring 4 by 6 by 4 ft. lists at $9.20.

If you write maker identify as IEN - 5529

PLASTIC . . Laminating resin will not drain from vertical surfaces

Source: MARCO CHEMICALS INC.
1709-13 Elizabeth Ave. W., Linden, N. J.

Technical bulletin upon request

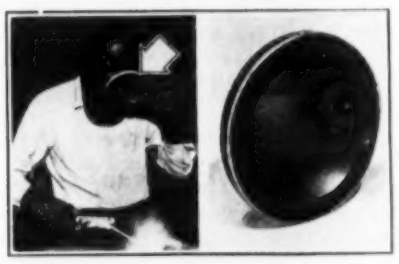
Marcothix Resin 1 is a new liquid material for application by brush, squeegee or spray. It is particularly suited to produce laminates such as boat hulls, motor vehicle bodies, aircraft parts, tanks, by hand lay-up. It simplifies application of protective coatings to storage tanks and to the vertical surfaces of various structures. It is a polyester resin, can be cured at room temperature or by application of heat.

Viscosity is a function of the shearing force applied. Thus the material maintains shape like a lubricating grease when it is allowed to stand. It will splash like a liquid of moderate viscosity when it is shaken in a container. It is translucent and pale buff in color. In cured condition, it has excellent chemical, moisture and abrasion resistance.

If you write maker identify as IEN - 5530

PROTECTING . . Helmet attachment permits arc welder to adjust lens

Source: POLACOAT INC.
9796 Conklin Road, Blue Ash, Ohio



Helmet "stays put"

Vari-Shade is a new adjustable welders' lens. It snaps into place in the rectangular opening on a standard arc welder's helmet. The user can rotate the outer housing to vary the amount of light transmission so he can see to start his weld and also be protected as the welding proceeds. The adjustable lens is back of a 1,000-hr. cover lens.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5531

YOUR SHIPMENTS DESERVE THIS PROTECTION

Can be equipped with printing attachment to mark your cartons as you seal. Heater at slight extra cost.

Counterboy 120

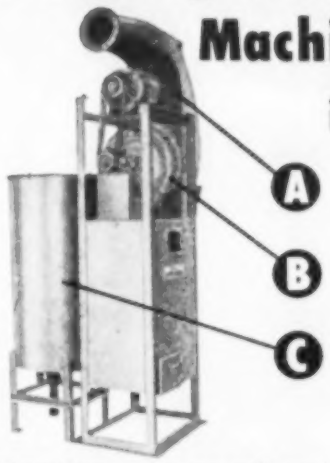
The all purpose sealer with Counterboy Moistening Control—ADJUSTABLE to adapt moistening to any sealing condition: such as standard or superstandard tape—age—high speed—water temperature—carton surface—etc. Assures deep penetration to give you maximum sealing protection.

Better Packages INCORPORATED
Plant # 2, 253 Canal St., Shelton, Conn.

Send for Booklet 252 illustrating 47 gummed and pressure tape dispensers.

If you write maker identify as IEN - 5532

Collecting Cast Iron Machining Dust is easy as



These three components make up the Model R Self-Contained ROTO-CLONE. Its 99.9+ cleaning efficiency eliminates the filth of fine carbon and metal dust—permits recirculation of cleaned air to work area. Unit requires a minimum of floor space and maintenance.

Let us show you how to clean up cast iron dust at a neat saving. Just call your local AAF representative or write us direct for complete product and performance data.

AAF **American Air Filter** COMPANY, INC.
335 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

If you write maker identify as IEN - 5533

Chicago MOUNTED Wheels

...now even better with **79E BOND**

Buy Chicago Mounted Wheels—bonded with 79E Bond—and you'll never use any other!

79E—a tough new bond exclusive with Chicago Wheel—is the sensation of the industry . . . it does a BETTER grinding, burring, and finishing job FASTER. A size and shape for every use. Deliveries are excellent—Order today.

CHICAGO WHEEL & *Mfg. Co.*
Dept. N • 1101 West Monroe Street, Chicago 7

If you write maker identify as IEN - 5534

Less Fatigue More Production WITH KELLER AIR TOOLS

Less expenditure of physical effort means more energy available for intelligent workers to "use their heads." When they know you are providing the *best* air tools, workers are better satisfied—and you have improved labor relations.

Send for **illustrated descriptive bulletin and detailed information**

Keller Tool Company
GRAND HAVEN, MICHIGAN

If you write maker identify as **IEN - 5535**

better paint job with Red Devil Paint Conditioner

Paint pepped up by Red Devil Paint Conditioners goes on more smoothly, and better protects your product. Patented 3-directional motion (22 shakes per second) puts pigment in perfect suspension—quick!

NOT JUST PAINT

Manufacturers of everything from printers' ink to putty use these machines to mix, blend, and rejuvenate all kinds of high-viscosity and low-viscosity mixtures.

If you have hard-to-mix, *or hard-to-keep-mixed blends,* Red Devil can arrange to have test samples agitated at a nearby location.

Various models provide automatically-timed agitation for ¼ pint to 5 gal. cans. Attachments for round and square containers.

Red Devil Catalog No. 21M lists all Red Devil three-way agitators and Red Devil floor maintenance machines. Write Red Devil Tools, 129 Coit Street, Irvington, New Jersey.

Products of 1948 **Red Devil Tools.** 129 COIT ST. IRVINGTON 11, N. J. U. S. A.

If you write maker identify as **IEN - 5536**

FREE BULLETIN on SURFACE ROUGHNESS tells . . .

- **How to establish roughness specifications** for parts that are in production — and for parts of new design.
- **How to show roughness specifications** on drawings and shop prints.
- **Practical advantages** of surface roughness specification.

ALSO gives tips on MEASURING surface roughness in the shop—and briefly tells why most plants use the PROFILOMETER for doing this.

Write Today!

Ask for BULLETIN L21.

Profilometer is a registered trade name.

MICROMETRICAL MANUFACTURING COMPANY
345 S. MAIN ST., ANN ARBOR 1, MICH.

If you write maker identify as **IEN - 5537**

from receiving to shipping

12 BUSCHMAN CONVEYORS

serve **Admiral's** *refrigerator plant*

- Six Apron Conveyors—door and cabinet assembly.
- Two Belt Conveyors—receiving dock to mezzanine storage.
- Elevator Conveyor—from R R cars to storage.
- Belt Conveyor — from assembly to shipping.
- Junction and Down-Ender Conveyor.
- Up-Ender and Shipping Room Conveyor.

More refrigerators . . . at lower cost . . . is the overall aim achieved with BUSCHMAN Conveyors at Admiral's Midwest Subsidiary plant. In this plant, as in hundreds of others in every branch of manufacturing BUSCHMAN Engineers have designed time, money and space saving equipment for the handling of materials from receiving through process, assembly and finishing to storage and shipping.

PRODUCE MORE . . . FOR LESS in Buschman Conveyors

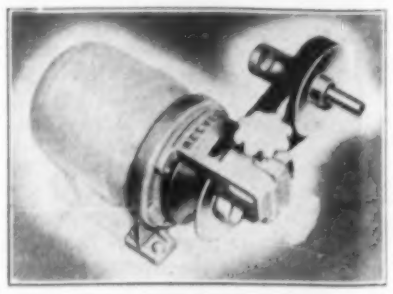
Write for Bulletin No. 60

THE E. W. BUSCHMAN CO.
4479 Clifton Avenue
Cincinnati 32, Ohio
Representatives in principal cities

If you write maker identify as **IEN - 5538**

DRIVE . . Variable pitch sheaves and belt apply with standard motor

Source: REEVES PULLEY CO.
800 N. Wilson St., Columbus, Ind.



Ask for Bulletin V-532

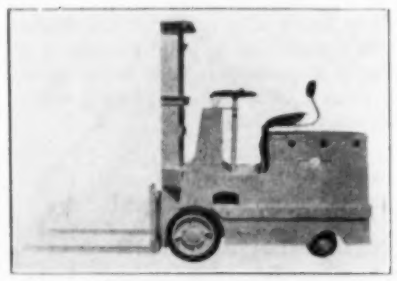
Flexi-Speed is a new variable speed drive. It consists of a mounting bracket and variable-pitch sheave with a handwheel by which sheave pitch can be changed and a second variable-pitch spring backed sheave to mount on a driven machine. The bracket assembles on a standard motor of foot mounted design. The variable pitch sheave is secured to the driving shaft. Turning the handwheel changes pitch and either releases or draws in the belt to effect corresponding change in pitch, but in the opposite direction, in the driven sheave.

Speed range is 7 to 8 to 1. Three assemblies for an 1800-rpm. motor rate ½, ¾ and 1 hp. Two sizes for a 1200-rpm. motor rate ½ and ¾ hp. Minimum output speed in the first case is 605 rpm. In the second case it is 400 rpm. The belt can be supplied for center distances from 9¾ to 18¼ inches. Sheave bore size is ¾ inch.

If you write maker identify as **IEN - 5539**

TRUCK . . Electric fork lift design, 2 to 4 ton rating at 15 to 24 inches

Source: WRIGHT-HIBBARD INDUSTRIAL ELEC. TRUCK CO.
253 Pleasant St., Phelps, N. Y.



Specifications on request

Automotive steering, hydraulic lift and tilt, ten deg. to the back and four deg. to the front, positive brakes, welded steel frame, 32-volt series parallel motor, characterize the construction of this new fork lift truck. The drive employs spiral bevel and helical gears in a sealed housing into which dirt cannot enter.

Control centers in a low current circuit to actuate a magnetic controller for four speeds forward and four in reverse. The speeds are sequenced automatically so the operator cannot overload the travel motor. Load center can be specified at 15, 20 or 24 inches. Lift height also is to specification.

Identify as **IEN - 5540**

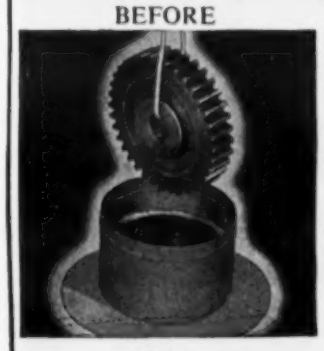
Meter tops, fronts, backs, and valve box covers are soldered shut and have to be opened when a gas meter is to be repaired. It is a slow job as it has been done by hand for a good many years. Now two experienced men can do as many as 500 meters a day with the new machines by J. P. Glasby Manufacturing Company to unsolder the meter front and back and to open tops and valve box covers.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

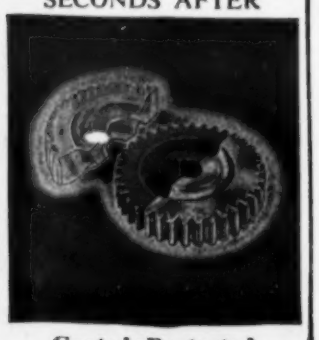
If you write maker identify as **IEN - 5541**

HOT MELT PLASTIC COATINGS for GEARS • TOOLS • PRECISION PARTS

BEFORE — SECONDS AFTER



Dip



Coated • Protected

DIP-PAK Protect vital, expensive tools, gears, and machined parts during storage and shipping with Fidelity's durable, transparent plastic coatings. Merely melt coating briquette, dip parts, cool. Lasts indefinitely. Tough; abrasive, moisture, rust resistant. To remove, slit, peel. Re-melt, re-use coating. Economical, practical, rapid. Protect parts; save money.

Write for Bulletins and Free Samples
Fidelity Chemical Products Corp.
471 Frelinghuysen Avenue, Newark 5, N. J.

If you write maker identify as **IEN - 5542**

Engineered Air Regulation

KENDALL MODEL 30

Precision Air Pressure Regulator
AVAILABLE ¼" or ⅜" N. P. T.
RANGES 0-10, 30, 60, 100 PSIG
Send for BULLETIN 9523

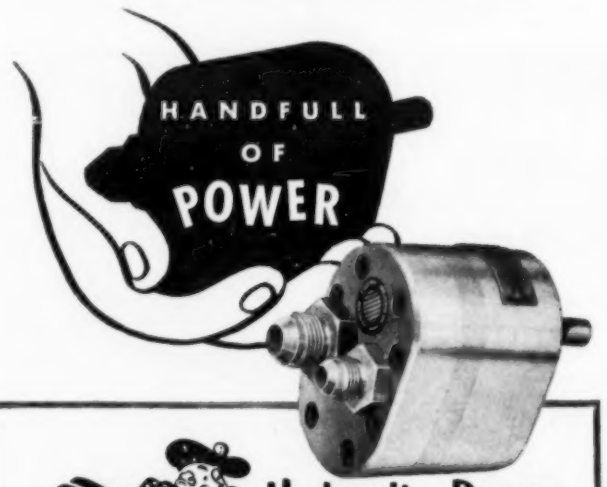
FIRST TRUE HIGH PRECISION AIR PRESSURE REGULATING VALVE AT NEW LOW COST

FEATURES:
☆ Perfect Balance — complete immunity from upstream pressure changes ☆ Large Flow Capacity (35CFM) — automatic relief — flow compensation ☆ Small Physical Size ☆ Removable Stainless Steel Valve Trim ☆ Deep Convolution Constant Area Diaphragms made by our own Bellofram Division ☆ Aircraft Quality materials and finishes ☆ Adaptable to all types of mounting ☆ New Low Unit Cost

APPLICATIONS:
☆ *Instrument service — internal and external*
☆ *Pneumatic gauges* ☆ *Paint sprayers* ☆ *Machine shop use*
☆ *Diaphragm and cylinder air loading*

KENDALL CONTROLS CORPORATION
144 MOODY STREET WALTHAM 54, MASS.

If you write maker identify as **IEN - 5543**



Hydraulic Pumps

HYDRAULIC PUMPS by Eastern do the work of giants. They are precision-made for highest volumetric efficiency. Volumes from .05 to 10 gpm against pressures to 200 psi. FLUID MOTORS develop to 6 H.P. Low starting torque, compact design. *Write for HYDRAULIC PUMP CATALOG 800-B*

Eastern INDUSTRIES, INC.
296 Elm St., New Haven, Conn.

If you write maker identify as **IEN - 5544**

Combat HEAT FATIGUE with PEP-UP® IMPREGNATED Salt Tablets

Will not cause Nausea or Stomach Distress

- **Salt lost through perspiration causes fatigue and heat exhaustion. Vigor and vitality can be increased—fatigue and heat prostration can be eliminated by taking PEP-UP Impregnated Salt Tablets.**
- **Meets Government Specification No. SS-S-31D.**

Write for literature and prices

EXPENDABLE DISPENSER

PEP-UP Impregnated Salt Tablets come to you in sanitary, factory sealed dispensers at no extra cost.

UNITED STATES SAFETY SERVICE CO.
KANSAS CITY 6, MISSOURI — BRANCHES IN PRINCIPAL INDUSTRIAL CITIES
In Canada: PARMELEE, LTD. Toronto — Montreal

If you write maker identify as IEN - 5545

WISSCO STEEL PROCESSING BELT

Turn your products out faster, more economically in continuous straight-line production with a Wissco Belt. To order, write or call our nearest sales office.

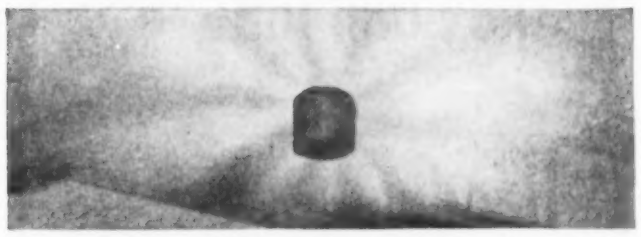
THE COLORADO FUEL AND IRON CORPORATION—Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION—Oakland, California
WICKWIRE SPENCER STEEL DIVISION—Atlanta • Boston • Buffalo
Chicago • Detroit • New York • Philadelphia

1431

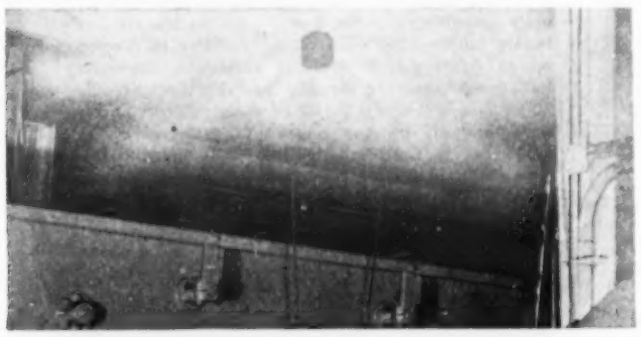
WISSCO BELTS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION CF&I

If you write maker identify as IEN - 5546

INSECTICIDE FOG COSTS 5¢ FOR 1,000 cu.ft.



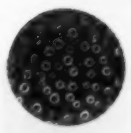
1 second — 10 precision machined suction nozzles on West Atomizer suspended from ceiling start filling the air with deadly "dry mist". Only 1 ounce of Vaposector needed to control flying insects; 2 ounces for crawling insects in 1,000 cu. ft.



2 seconds — Fog droplets are so small they hang in the air . . . seep into cracks . . . penetrate delicate insect breathing tubes. The combination of efficient West Atomizing equipment and high potency insecticide produces thorough insect protection at a remarkably low cost.

3 seconds — Insects have no place to hide. One man has completely fogged this area and all other plant areas by merely turning a valve. This Insect Control Program was set up by a West Specialist. Your plant can be surveyed too. Without obligation. There's a complete line of West insecticides and equipment — permanent or portable — to choose from. Just write in.

➡ *FREE BOOKLET available on request.*



Magnified photo of uniform 8 micron droplets produced by West Atomizer equipment. "Dry mist" remains airborne for prolonged periods of time.

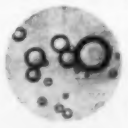


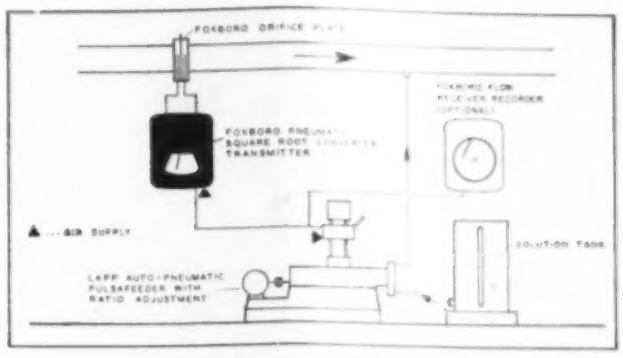
Photo of droplets produced by ordinary hydraulic compressor sprayers. Vary from 2 to 300 microns. Larger droplets fall, wetting floors and cutting effectiveness.

WEST DISINFECTING COMPANY
42-16 West Street • Long Island City 1, N. Y.

If you write maker identify as IEN - 5548

CONTROL . . Pneumatic instruments to regulate liquid chemical feed pump

Source: FOXBORO CO.
42 Neponset Ave., Foxboro, Mass.



Details in Bulletin 000-10

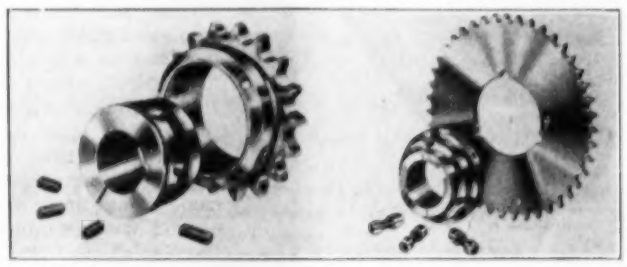
Illustrated is new application of a Foxboro pneumatic transmitter to regulate the operation of a Lapp Pulsafeeder pump and hold chemical feed into a pipe line in proportion to primary flow through the line. The transmitter connects to a pneumatic cylinder mounted on the pump to vary the piston stroke and thus change feed rate while the pump operates at constant speed with its electric motor drive. The installation permits automatic feed control of treating chemicals.

Similar applications, employing a Foxboro Dynalog controller, serve to regulate pH of a fluid in either narrow or wide flow variations. Any number of supplementary indicators, recorders or controlled diaphragm feeders can be operated from one pneumatic signal.

If you write maker identify as IEN - 5549

DRIVE . . Roller chain sprockets mount on interchangeable split hubs

Source: CULLMAN WHEEL CO.
1347 Altgeld St., Chicago 14, Ill.



Data and prices in Grip-Master bulletin

Series I, to the left in the illustration, and **Series II,** to the right, are new Grip Master design of roller chain sprockets and interchangeable split hub bushings. One design employs headless screws to press the bushing into its tapered seat in the sprocket. The other uses special nuts and bolts to pull the two into tight assembly. The bushing contracts to grip the shaft. A keyway is provided for the drive.

The design is available in ⅜ to 1¼-in. pitch sprockets. Sizes range from 19 to 60 teeth in the smallest pitch with minimum bore at ⅜ to ⅝ in. and maximum bore at 1 to 1¾ inches. The largest pitch is available in 13 to 16 teeth for Series I and from 17 to 48 teeth in Series II. Bore is minimum at 1 in. and maximum at 2 and $2\frac{7}{16}$ inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5550

IT COSTS LESS TO USE THE BEST!

PLS

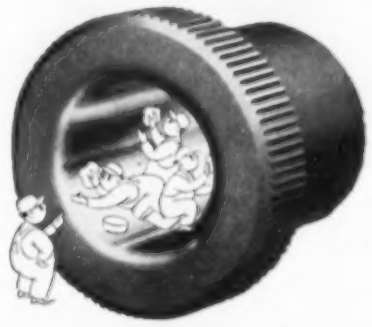
1. Takes less PLS to give a perfect seal.
2. One compound for many services: water...oil...gas...steam...chemicals...petroleum products—low and high pressures.
3. Never washes out—one application lasts forever.
4. Never hardens: joints may be easily broken after years of service—no damaged connections.

Prove it to yourself. Send for a free sample. Crane Packing Company, 1815 Cuyler Avenue, Chicago 13, Ill.

JOHN CRANE CRANE PACKING COMPANY

If you write maker identify as IEN - 5551

SUPER FINISH OF UNIVERSAL DRILL BUSHINGS reduces tool wear to a minimum



One sure way to cut excessive tool wear in your operations is to specify Universal Drill Bushings because their superfinish bores help reduce wear on production tools to an absolute minimum, especially in close tolerance work. The blended radius on the top inside diameter helps prevent tool hang-up and breakage. 100% concentricity and hardness tests insure accuracy, uniform high quality and long life. Knurled heads provide a quick, sure grip. Universal Drill Bushings are produced in a complete range of standard sizes and lengths. Orders for special dimensions will receive prompt attention. For complete information, write to the office nearest you—Universal Engineering Sales Co., 1060 Broad St., Newark 2, N.J.; 5035 Sixth Ave., Kenosha, Wis. — or our home office.

UNIVERSAL ENGINEERING COMPANY
FRANKENMUTH 6, MICHIGAN

171-A

If you write maker identify as IEN - 5552

SUB-MINIATURE PILOT LIGHTS *Approved* for AIRCRAFT

AND IMPROVED IN IMPORTANT DETAILS

DIALCO

A great aid to your miniaturization program

SUB-MINIATURE INDICATOR ASSEMBLIES

ACTUAL SIZE

NON-DIMMING
No. 8-1930-621

MOUNT IN 15/32" HOLE
ALL LENS COLORS

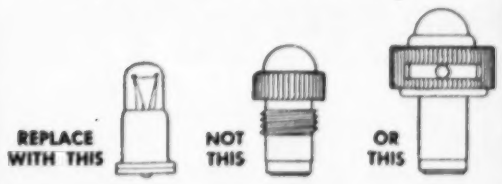
Easy lamp replacement with any midget flanged base lamp types

Complete blackout or semi-blackout dimmer types

ACTUAL SIZE

MECHANICAL DIMMER
No. 11-1930-621

THESE ASSEMBLIES LOGICALLY REPLACE LAMPS NO. 319, 320, and 321



PLASTIC PLATE (EDGE) LIGHT ASSEMBLIES

AIR FORCE and BUREAU of AERONAUTICS
MIL-L-7806 DRAWING MS-25010

ACTUAL SIZE

DIALCO *No. TT-51* (Red filter-black top) or, *No. TT-51A*, complete with No. 327 Lamp

ALSO MADE
with other filter colors and with *light-emitting top* (for indication)

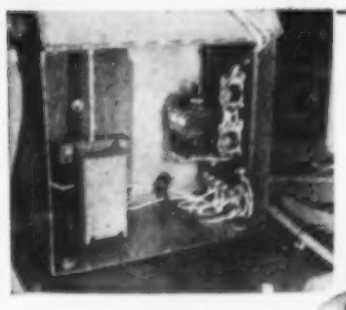
ALL OF THE ASSEMBLIES ILLUSTRATED ACCOMMODATE LAMPS NOS. 327, 328, 330, and 331.

ANY ASSEMBLY AVAILABLE COMPLETE WITH LAMP

SAMPLES ON REQUEST — NO CHARGE

Foremost Manufacturer of Pilot Lights
DIALIGHT CORPORATION
60 STEWART AVENUE, BROOKLYN 37, N. Y. HYACINTH 7-7600

If you write maker identify as IEN - 5554



"Years of service—and over a million operations a year"
D. W. Onan & Sons Inc.

AGASTAT

light . . . versatile

TIME DELAY RELAYS

AGASTATS are used by Onan to prevent starting of their standby plant on momentary power failure, to prevent stopping of the plant until power has returned for a given time, and on some lugging presses that operate over a million times a year. Onan reports several years of service with a minimum of attention.

AGASTATS are solenoid actuated and pneumatically timed. They are light, compact, dustproof and can be furnished to operate mounted in any position. There is an AGASTAT model that is right for your needs.

Write for Bulletin
Dept. A2-52

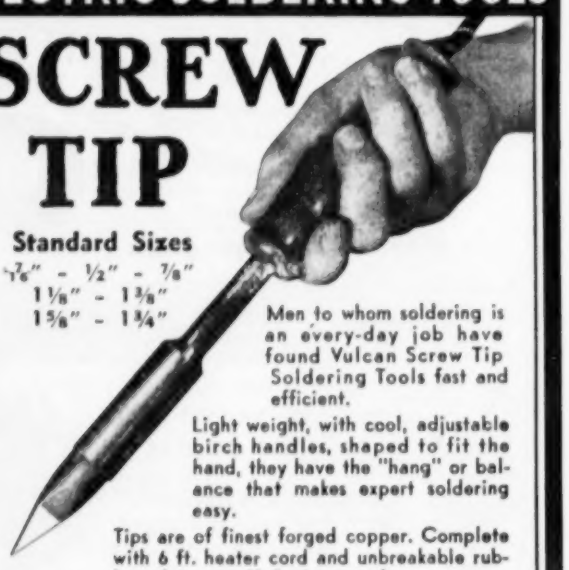
AGA

Division of Elastic Stop Nut Corporation of America
1027 Newark Avenue, Elizabeth 3, New Jersey

If you write maker identify as IEN - 5555

VULCAN
ELECTRIC SOLDERING TOOLS

SCREW TIP



Standard Sizes
1/16" - 1/2" - 7/8"
1 1/8" - 1 3/8"
1 5/8" - 1 3/4"

Men to whom soldering is an every-day job have found Vulcan Screw Tip Soldering Tools fast and efficient.

Light weight, with cool, adjustable birch handles, shaped to fit the hand, they have the "hang" or balance that makes expert soldering easy.

Tips are of finest forged copper. Complete with 6 ft. heater cord and unbreakable rubber plug. • U. L. Approved.

VULCAN ELECTRIC CO.
DANVERS 8, MASS.

Vulcan Electric Soldering Tools, Solder Pots, Glue Pots, Branding Irons. Vulcan Electric Heating Elements.

If you write maker identify as IEN - 5556

TEMPILSTIKS°

the amazing Crayons that tell temperatures

in
WELDING
FLAME-CUTTING
TEMPERING
FORGING
CASTING
MOLDING
DRAWING
STRAIGHTENING
HEAT-TREATING
IN GENERAL

$2 each

gives up to 2000 readings

it's this simple:
- Select the Tempilstik° for your working temperature.
- Mark your workpiece with it.
- The Tempilstik° will leave a liquid mark as soon as its specified temperature is reached.

Available in these temperatures (°F)

113	213	313	450	850	1250	1650
125	225	325	500	900	1300	1700
138	238	338	550	950	1350	1750
150	250	350	600	1000	1400	1800
163	263	363	650	1050	1450	1850
175	275	375	700	1100	1500	1900
188	288	388	750	1150	1550	1950
200	300	400	800	1200	1600	2000

Also available in pellet and liquid form.

TEMPIL CORPORATION
11 West 25th St., New York 10, N. Y.

FREE—Tempil° "Basic Guide to Ferrous Metallurgy." —16¼" by 21" plastic-laminated wall chart in color. Send for sample pellets, stating temperature of interest to you.

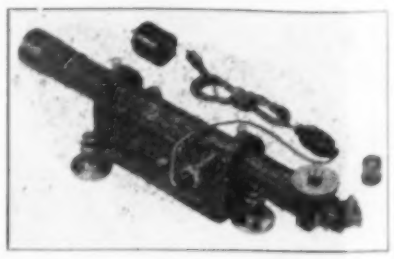
NAME _____
COMPANY _____
ADDRESS _____

Booth 125, Welding & Industry Exposition, Houston, Texas

If you write maker identify as IEN - 5557

GAGE . . Optical level checks straightness, squareness

Source: ENGIS EQUIPMENT CO.
429-33 S. Dearborn St., Chicago 5, Ill.



For toolroom, inspection

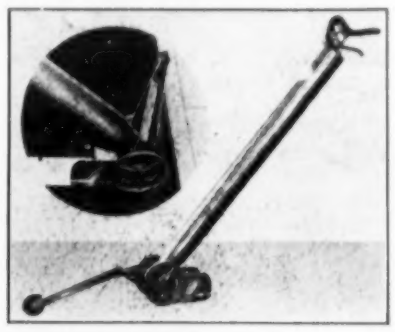
New instrument can be described as the equivalent of a super-precision level that provides readings free from effects of temperature change, normal shop vibration or wear. It is accurate to 0.0000025 in. per inch. It will read in any plane, horizontal, vertical or inclined. Check can be made perpendicular to its own axis by application of an optical right-angle accessory. It represents improved design of the company's Microptic Auto-Collimator.

Improvements include illumination by means of a 4-volt lamp connecting through a 12-ft. cord, switch, plug and transformer, a new filter for sharp clear readings, a circular bubble on the base for quick leveling, a precision lapped leveling pad, a new scale permitting determination of inclinations in two perpendicular planes without rotating the instrument in its bearings. An angular eye-piece, rotating through a full circle, can be specified when desired.

If you write maker identify as IEN - 5558

MARKING . . Traffic line machine feeds paint to brush by gravity

Source: H. C. SWEET CO.
24394-98 W. 7-Mile Road, Detroit 19, Mich.



Lever flow control

New design of the Florline marking machine, previously described IEN-12215-51, employs a guide wheel mounted on a jointed arm to roll ahead of the machine. The arm folds back, upon approach to a curve or wall, so the machine can continue up to the barrier without interference. Curved lines are made by turning the machine and steering the guide wheel to the right or left.

The machine can be raised by its handle to roll on the three wheels from one location to another without having to support the reservoir weight. Two designs include the unit illustrated and one known as Florline-X which will place lines within 1/8 inch of a partition. List prices are $97.50 and $98.75.

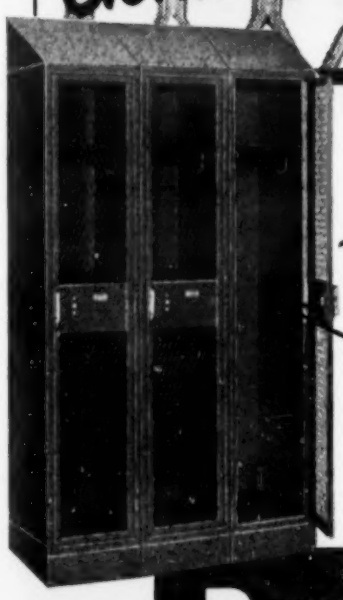
Identify as IEN - 5559

Thermoplastic sheet material is heated in 12 seconds for vacuum forming in an electric heater employing two standard Edwin L. Wiegand Company infra-red heaters. Each is rated at about 11 kw. Heat is controlled for close duplication of the heating action from one sheet to the next.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5560

Keeps Clothes Fresher!
PENCO



"AIR-LITE" LOCKER

The steel locker that "breathes" through 3/4" mesh door openings—an exclusive Penco feature!

- MAXIMUM NATURAL VENTILATION
- DAMP CLOTHES DRY FASTER
- CONTENTS CAN BE INSPECTED—WITHOUT OPENING DOOR
- SAFE, PILFER-PROOF STORAGE
- PENCO QUALITY CONSTRUCTION
- SINGLE AND DOUBLE TIER TYPES—IN A WIDE RANGE OF SIZES

85TH YEAR OF SERVICE

Send for complete locker catalog

PENN METAL
Corporation of Penna.
80 OREGON AVE., PHILA. 48, PA.

If you write maker identify as IEN - 5561

FREE CATALOG!

available to you who are interested in the facts on open steel flooring.

Up to the minute information on the hows and whys of construction and installation of Tri-Lok Open Steel Flooring may now be at your finger-tips. Here is a four-page catalog designed to aid you in selecting the best types and styles of open-steel flooring for your particular construction project.

IN THIS CATALOG YOU'LL FIND
- Tables of Safe Loads
- Specifications required for open steel flooring installation
- Types of Tri-Lok Open Steel Flooring available
- Information concerning construction, sizes, strength and adaptability of Tri-Lok Open Steel Flooring

FOR YOUR COPY, WRITE FOR BULLETIN PW 110

DRAVO CORPORATION
National Distributor for THE TRI-LOK CO.
Dravo Building, Fifth and Liberty Avenues, Pittsburgh 22, Pa.

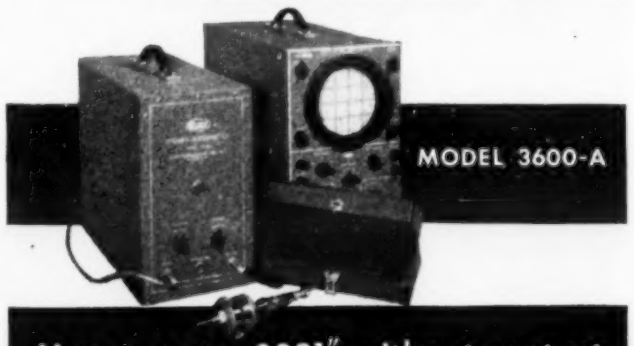
If you write maker identify as IEN - 5562

they call me Handy Andy

Here's the handiest test pump for hydraulically testing pipe, valves and fittings; for operating hydraulically actuated equipment; for hundreds of other uses in field, laboratory or shop. ★ This two-stage, manually operated pump has one cylinder for low-pressure testing (up to 2,500 psi); is quickly shifted to develop up to 6,000 psi. ★ Replaces elaborate, expensive testing equipment. ★ Readily portable (weighs only 70 pounds) and with a bucket of water you can quickly and painlessly develop on-the-spot pressures up to 6,000 psi. ★ Costs mighty little—lasts indefinitely—pays for itself long before a few inexpensive wearing parts need to be replaced. ★ For details and price address . . .

BAKER OIL TOOLS, INC.
BOX 2274 TERMINAL ANNEX
LOS ANGELES 54, CALIFORNIA

If you write maker identify as IEN - 5563



Measures to .0001" without contact
Displacement — Eccentricity
Radial whip — Vibration

Measures
Radial expansion of objects at high speeds
•
Acceleration • Vibration in heat exchangers
•
Motor vibration, valve travel, bounce
•
Eccentricity of commutators, slip rings

FREE Bulletin DM1250

EPL DYNAMIC MICROMETER measures and records static distance as well as the amplitude of dynamic movement of any metal body... at any speed. Calibration of sensing unit permits direct reading... eliminates need for calibrating components. Measurements independent of acceleration or frequency of displacement.

Electro ELECTRONIC EQUIPMENT — **ELECTRO PRODUCTS LABORATORIES**

4501-IEd RAVENSWOOD AVE., CHICAGO 40, ILL.
CANADA: ATLAS RADIO CORP., LTD., TORONTO, ONT.

If you write maker identify as IEN - 5564

SURETY's SILVERTEX

TOUGH COATING for TOUGH JOBS

Laboratory tests and Industry use show:

- Better chemical resistance than rubber or standard synthetics.
- Silver coating reflects moderate heat radiation.
- Resists cuts and snags.
- Won't crack or peel with use.
- Curved finger design, swing thumb, all standard sizes, styles.

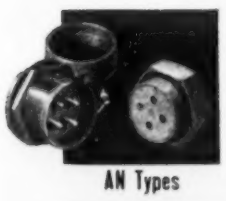
Write for complete information.

THE SURETY RUBBER CO. CARROLLTON, OHIO

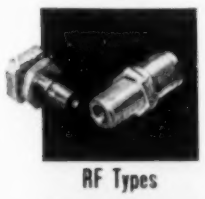
If you write maker identify as IEN - 5565

HHB

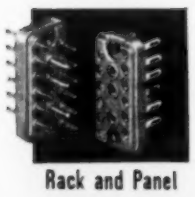
A long established symbol .. *in electronics*



AN Types



RF Types



Rack and Panel

Cable Assemblies

FOR THE PAST 20 years we've been applying our skills to problems in *research, design, engineering,* and *manufacture* of connectors and component parts for many of America's best known companies in the electronics and communications industries.

OUR CRAFTSMEN have been and are now producing parts that exceed the most exacting requirements. Our task is to make the H. H. Buggie And Company symbol even more important to you through manufacture of products equal to the importance you attach to them.

IN ADDITION to the products illustrated at left, H. H. Buggie And Company designs, engineers, and manufactures many special parts and assemblies.

We invite your inquiries.

H. H. BUGGIE And Company

TOLEDO 4, OHIO

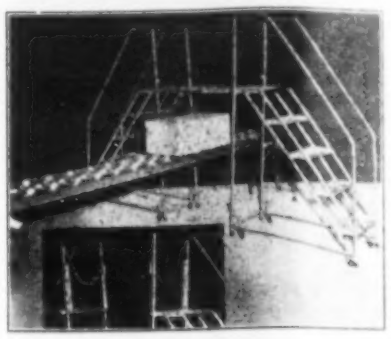
Skilled in Electronic Component Parts RESEARCH • DESIGN ENGINEERING MANUFACTURING

Sales Engineers in All Principal Cities

If you write maker identify as IEN - 5567

SCAFFOLD . . Portable crossover employs safety ladders and walkway

Source: BALLYMORE CO.
137-41 Pennsylvania Ave., Wayne, Pa.



Safely up and over

Worker passage over a conveyor line is provided by this new combination of the company's previously developed portable safety ladder and a walkway. The ladder can be hinged up and the two individual ladders employed separately when the crossover is not required. Construction is in steel tube with casters or rubber tipped feet. The casters retract to rest the legs on the floor when weight is put on the steps.

If you write maker identify as IEN - 5568

FLOORS . . Resurfacing material for brick, concrete, steel, wood

Source: ROCK-TRED CORP.
7442 N. St. Louis Ave., Skokie, Ill.

Material is set by compaction

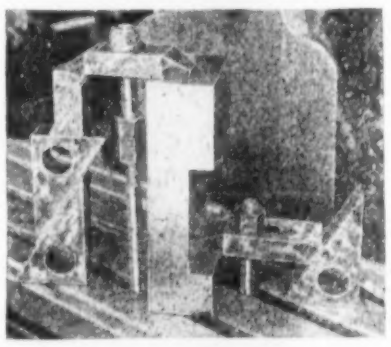
Redi-Roll is a new factory prepared resurfacing and patching material for application on worn and broken floor surfaces. It is raked over a floor, after cleaning and priming the surface, and is then rolled down to about ¼ in. in thickness. This is followed by sprinkling a surface powder to eliminate tackiness. The repaired surface then is ready.

The material can be feather-edged to a surrounding floor. Packaging is in 825-lb. containers that include the primer, the surface powder, and the granular material. Coverage is about 275 sq. ft. for each container at ¼ in. of compacted thickness.

If you write maker identify as IEN - 5569

CLAMP . . Plain and step units hold tools or work on machine table

Source: NORTHWEST TOOL & ENGINEERING CO.
124 Hollier Ave., Dayton 3, Ohio



Details on request

The company announces addition of a line of strap clamps to its previously developed set-up tools. The new units are beveled on the nose for cutter clearance and are furnished in plain and step types. Lengths range from 2½ to 6 in. with openings for studs from ⅜ to ¾ inch. The units are made of case hardened steel.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5570

LABEL ADDRESSING

MADE FASTER . . CHEAPER . . MORE ACCURATE

Multistamp Duplicator makes multiple addressing quick, clean, easy . . 1000 or more clear, sharp copies without re-inking. Prints practically anywhere . . postcards, tags, labels, boxes, cartons, packages, menus, forms, letters . . paper, cloth, wood. Just type, write, trace or draw on inexpensive stencil . . snap it on duplicator . . and print—like using a rubberstamp. New pre-die-cut "FORM-CUT" stencil prints shipping form and identification data in one operation.

THE ORIGINAL HAND STAMP STENCIL DUPLICATOR

Portable . . non-mechanical . . of non-corrosive metal . . replaceable ink pads. 8 complete outfits: $9.50 to $99.50, including supplies (f.o.b. factory). Write for literature or see your office or shipping room supply dealer.

OVER 30 YEARS

MULTISTAMP STENCIL DUPLICATOR

MANUFACTURED ONLY BY THE MULTISTAMP CO. NORFOLK, VIRGINIA

If you write maker identify as IEN - 5571

Speed Production... Automatically with T-J RIVITORS

Boost production . . . save labor in aircraft, automotive, farm machinery, stampings of all kinds . . . with T-J Rivitors! Automatically feed and set solid rivets. Electrically-powered Rivitor sets 1/16" to 1/4" diam. solid rivets up to 7/8" long. Air-powered Rivitor sets aluminum alloy rivets up to 1/4" diam. or steel rivets up to 1/8" diam. and up to 3/4" long. Throat depths 8" to 36". Write for bulletins 646 and 847. The Tomkins-Johnson Co., Jackson, Mich.

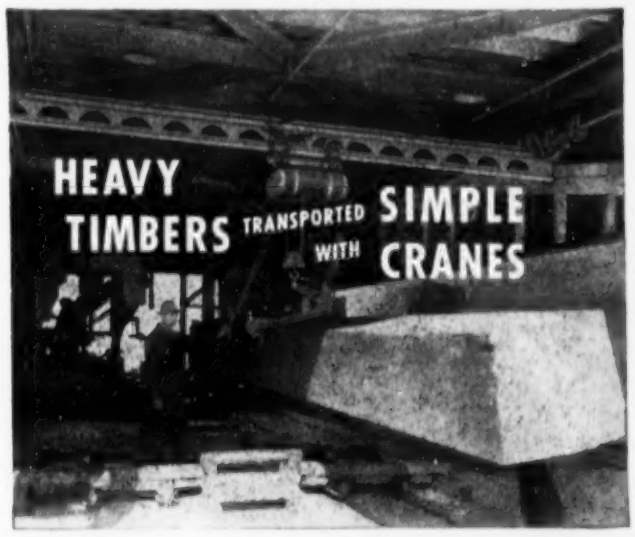
T-J Rivitor used for automotive clutch plate assembly. Does four-fold job—assembling, setting, inspecting, ejecting.

37 YEARS EXPERIENCE T-J

TOMKINS-JOHNSON

RIVITORS · AIR AND HYDRAULIC CYLINDERS · CUTTERS · CLINCHERS

If you write maker identify as IEN - 5572



Often as many as six men are required to handle a heavy timber through a saw by ordinary handling methods.

One lumber company was able to transfer 12 men to other important duties by installing four Cleveland Tramrail Cranes with electric hoists. Three men can now handle the huge timbers easily and safely.

GET THIS BOOK!
BOOK No. 2008
Packed with valuable information . . .

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
4217 East 285th Street • Wickliffe, Ohio

CLEVELAND TRAMRAIL

If you write maker identify as IEN - 5573

Announcing THE *NEW* WELLS Model 800 Horizontal Metal Cutting BAND SAW

Approved for use with the revolutionary *NEW* MILFORD REZISTOR HIGH SPEED STEEL BAND SAW BLADE

Designed for production cut-off work, particularly for cutting stainless steel

THE NEW WELLS MODEL 800 is the first metal cutting band saw designed to capitalize on the remarkable advantages, and to be approved for use with the new *Milford Rezistor* High Speed Steel Band Saw Blade.

Model 800, engineered for heavy duty work, provides for practical and efficient use of blades of 1" in width, especially the new High Speed Steel Band Saw Blade. This blade, used with Wells Model 800, has established new records . . . higher level of cutting efficiency . . . more cuts per blade.

Wells Manufacturing Corporation will be glad to study your metal cutting jobs to determine which blade, when used with Model 800, will show you cost savings.

Wells

Products by Wells are Practical

METAL CUTTING BAND SAWS

WELLS MANUFACTURING CORPORATION
1111 MADISON ST., THREE RIVERS, MICH.

If you write maker identify as IEN - 5574

The Hobbs TRI-POWER Die Press

The versatile Tri-Power die press can help solve many of your die-cutting problems!

Designed primarily for cutting multiple layers of soft, flexible materials, it is exceptionally fast and easy to operate. Exclusive electronic controls provide complete safety for operator, machine and die. Capacity of press is 15 to 20 tons. Standard cutting speed is 16 strokes per minute. Other speeds can be supplied to meet special requirements. Rugged construction and simple electronic control center assure long life.

Investigate now the ways this machine can increase die-cutting production and efficiency in your plant!

WRITE FOR DESCRIPTIVE CIRCULAR! *For complete technical information, send for our fully descriptive Tri-Power circular.*

HOBBS MANUFACTURING CO.
40 SALISBURY ST., WORCESTER 5, MASS.
EST. 1893

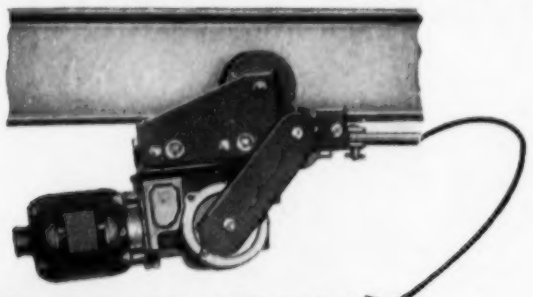
Producers of Modern Machinery for Modern Industry

Jacques Hand and Power Shears, Slitters and Rewinders, Hobbs Autotronic and Tri-Power Die Presses, Paper Box Machinery and Touch-O-Matic Industrial Cutters.

If you write maker identify as IEN - 5575

Simply Add

a *Trojan* TRACTOR



FOR POWER TRAVEL

The Trojan Tractor quickly converts slow, hand traveled hoists or small cranes and other handling units to fast, power travel; speeds up production. Simple draw-bar attachment.

Ask for Trojan Tractor Bulletin 810

DETROIT HOIST & MACHINE CO.
48th year: Designers & Manufacturers Since 1905
8237 Morrow St., Detroit 11, Mich.

If you write maker identify as IEN - 5576

BE CERTAIN

GET BRONCO 60 *Certified*

the portable cords and cables with 60% by weight Neoprene jackets.

BRANDED!

BRANDED JACKETS!
No mistake...You know you are getting *Certified*. You read at a glance cable type, size, voltage, "P116BM"... which indicates approval by the Pennsylvania Bureau of Mines, and acceptance for listing by the U. S. Bureau of Mines. Easy to measure . . ."Bronco" is repeated every 2 feet.

With Bronco 60 *Certified* you know you are getting a full 60% *by weight* of Neoprene in your cable's protecting jacket because its contents are *certified*.

***More Neoprene* makes long-lasting Bronco 60 *Certified more resistant* to oil, acids, alkalis, ozone, gasoline, salt water.**

In addition, with Bronco 60 *Certified* you get: 1. Cold Rubber Insulation. 2. Branded Jackets. 3. Superior Flexibility.

So, BE CERTAIN, GET *CERTIFIED* — the greatest cord value on the market!

SOLD NATIONALLY BY ELECTRICAL WHOLESALE DISTRIBUTORS

WESTERN INSULATED WIRE CO.
Los Angeles 58, California

If you write maker identify as IEN - 5577

HEATING . . Gas fired space unit, seven sizes, to 184,000 btu. per hour

Source: YOUNG RADIATOR CO.
719 Marquette St., Dept. 641, Racine, Wis.

Ask for Catalog 2752

Aluminized steel, in welded assembly, is employed in the combustion chamber and heat exchanger of this new unit heater. The steel withstands temperatures to 900 deg. F. without discoloration and to 1,600 deg. F. without destructive scaling. At the rear of the housing is a motor driven four-blade aluminum propeller type fan. It handles 700 cfm. at 70 deg. F. in the smallest unit, 2,600 cfm. in the largest one. Final temperature, with 70 deg. F. entering air, is 144 deg. for smallest unit, 136 deg. F. for the largest unit. Motor rating is 1/30 to 1/6 hp.

Housing dimensions are approximately 19½ to 25¾ in. in width, 15¾ to 21¼ in. front to back, without counting louvers or motor, and 36¾ to about 45 in. in height. Cast iron burners are interchangeable for manufactured, natural, mixed and liquid petroleum gas. The assembly includes an automatic pilot safety switch and temperature limit control with a shut-off valve in the pipe connection ahead of the controls.

If you write maker identify as IEN - 5578

TRUCK . . Engine driven fork lift for operation in plant and yards

Source: ROSS CARRIER CO.
2525 Miller St., Benton Harbor, Mich.

Details on request

Series 6 is a new 3-ton engine driven fork truck designed to handle loads indoors and outside. It positions its hoist cylinders and chains within the side members of the upright so the operator has unobstructed forward vision. Control for hoist and tilt is at a single lever for the operator.

Controls provide four speeds forward and four in reverse to 14½ miles per hour. The engine rates 62 hp. at 2,400 rpm. It is fed by a pump from an 11-gal. fuel tank. Mounting is on 7.50-15 pneumatic tires on a 66-in. wheel base.

The truck can be turned in 92-in. intersecting aisles. The 3-ton rating is based on 24-in. load centers. Three lift heights in standard design are to 6, 9 and 12 feet.

Identify as IEN - 5579

New header bar to pull the sides of open top trailers together is available from Aero Canvas Products. The bar is split across the center and hinges on the two sides. It is raised into horizontal position and a clamping hook, with a 3-in. reach, is connected and pulled shut. The bar cannot be lost since it is made a part of the trailer wall.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5580

YOU CAN'T BEAT GARRETT

SPRING LOCKWASHERS

Get greater holding power in each assembly with the exclusive Controlled Tension built into every Garrett Spring Lockwasher. Assures greater spring tension of correct pressure on every bolt and nut . . . longer life to every assembly. Garrett makes a complete line of spring lockwashers of high carbon steel, bronze, aluminum, stainless-steel or monel metal . . . plated to your requirements. Garrett also manufactures washers to all Armed Forces Specifications . . . such as AN935, BECX1, BECX2, BECX3 and others. All are ready for . . .

IMMEDIATE DELIVERY FROM STOCK

Garrett OF PENNSYLVANIA

GEORGE K. GARRETT COMPANY, INC. PHILA. 34, PA.

If you write maker identify as IEN - 5581

HOW TO CUT BELOW-ROOF HEAT 13° to 26° *Immediately!*

Brush or spray on Tropical Roof Coolerant and *feel* the difference at once! This non-staining, bright metallic coating reflects up to 70% radiant heat away from the roof, cuts below-roof temperature up to 26° to give hot-weather comfort. Anyone can apply Tropical Roof Coolerant quickly, easily, at low cost. Do it NOW!

LENGTHENS ROOF LIFE, TOO!

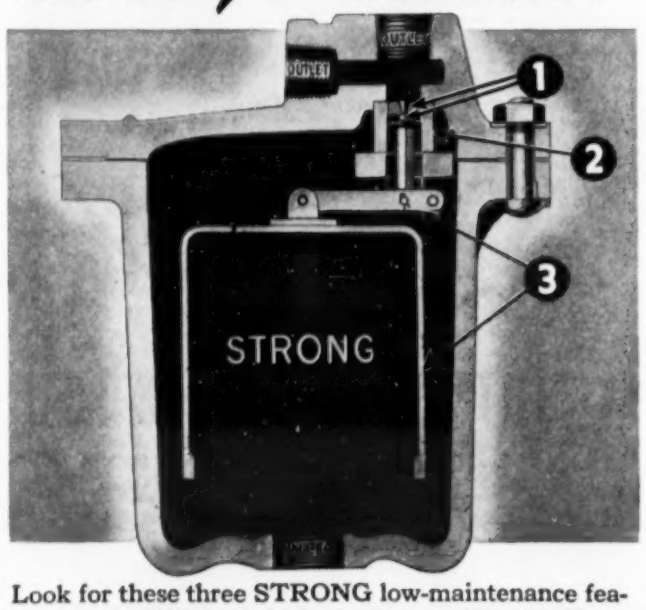
Bright, seamless Roof Coolerant metallic shield prevents drying action of summer heat, keeps roof flexible, prevents cracks and leaks. Adds years to roof life!

FREE! Complete information, literature, on Tropical Roof Coolerant for comfort and roof protection THIS SUMMER. Write today!

THE TROPICAL PAINT & OIL CO. SINCE 1883
1126-1242 W. 70th Street • Cleveland 2, Ohio

If you write maker identify as IEN - 5582

3 Reasons STRONG* Traps *are easy to maintain!*



Look for these three STRONG low-maintenance features in the STRONG 80 Series Inverted Bucket Trap:

1. **Anum-Metl Valve and Seat—guaranteed leakproof for one year;**
2. **Bolted-in seat design—insures tight seal, easy servicing;**
3. **Stainless steel bucket and trim.**

Compare these features with other traps!

STRONG 80 Series Trap sizes ½" to 2½", pressures to 250 lbs., temperature to 500° F. (forged steel for higher pressures).

Dual outlet simplifies piping, bottom inlet keeps trap cleaner. Years of trouble-free operation assured by super-STRONG construction.

Catalog No. 68-H describes inverted, open bucket and other types of STRONG traps. Write today.

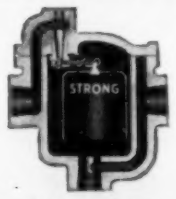
*Trade Mark Reg. U. S. Pat. Off.

STRONG, CARLISLE & HAMMOND COMPANY
1392 West 3rd Street
Cleveland 13, Ohio

ANUM-METL Reg. Trade Mark

OTHER STRONG STEAM SPECIALTIES

Reducing Valve



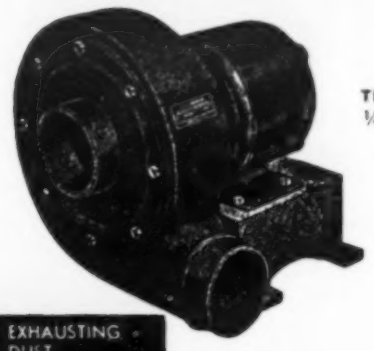
70 Series Trap

Strainer

STRONG

If you write maker identify as IEN - 5584

THE Sutton MOTOR DRIVEN PRESSURE BLOWER



THREE SIZES ¼, ½, 1 H.P.

USE FOR
- EXHAUSTING
- DUST
- SMOKE
- FUMES
- VAPOR
- FORGE BLASTING

CONVEYING COTTON, WOOL, SHAVINGS
COOLING AND DRYING

MADE OF LIGHTWEIGHT CAST ALUMINUM ALLOY, CENTRIFUGAL TYPE. Direction of discharge may be changed to any of eight 45 degree positions. Straight wall construction reduces windage and increases efficiency. Standard 3450 r.p.m. direct-connected 60-cycle ball bearing motor, open or totally enclosed types. Capacities, 100 to 800 cu. ft. per min. at static pressures from ½" to 6".

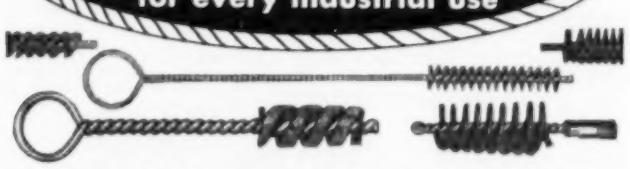
Write for LITERATURE AND PRICES

Sutton *Manufacturing Corp.*
126 W. WILSON AVENUE NORFOLK, VIRGINIA

If you write maker identify as IEN - 5585

Twisted-in-Wire

BRUSHES
for every industrial use



• Thousands of people use brushes every day. Telephone companies use Mill-Rose brushes to keep switching contacts clean. Metal working plants use them to clean out holes as small as .067" dia. Tubing makers use them to remove burrs—plumbers to insure tight soldered joints—paper makers to ground static electricity. Users of electric shavers use them to clean out cut whiskers.

Mill-Rose specializes in twisted-in-wire, wire-filled brushes for industry. Their thirty years of brush know-how, applied to your problems, may develop procedures that will save money and speed production—may produce a brush to be sold with your product—may show where brushes can replace more expensive tools.

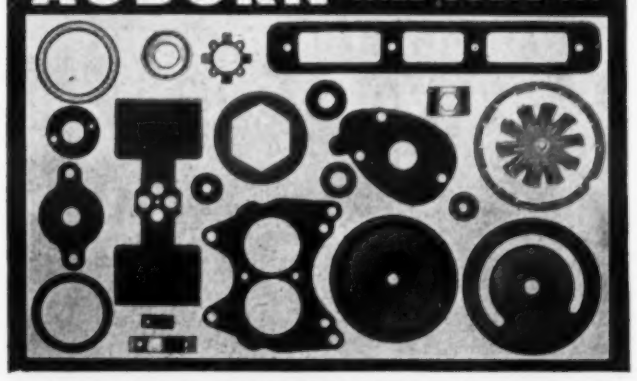
Write today for Mill-Rose Bulletin listing standard size brushes, always in stock—or outline a problem that a special brush might solve.

HIGH PRECISION INDUSTRIAL BRUSHES TWISTED IN WIRE

The MILL-ROSE *Company* 1985 EAST 59th STREET CLEVELAND 3, OHIO

If you write maker identify as IEN - 5586

POSE YOUR PROBLEM
AUBURN WILL SOLVE IT!



GASKETS - PACKINGS - WASHERS
SPACERS • SEALS • SHIMS • BUSHINGS

Designed, fabricated . . . a full line made for every purpose . . . out of materials including:

Leather • Asbestos • Cork • Rubber
Cardboard • Silicon Rubber • Neoprene • Brass
Aluminum • Felt • Phenolics • Compositions
Cloth • Fibre • Paper • Plastics • Steel
Copper • Teflon • Special Materials

Send us details about your problems in this field . . . your specifications, blueprints.

We'll be glad to advise you, and to send quotations if wanted . . . without obligation to you.

AUBURN *Manufacturing Co.*
302 Stack St. • Middletown, Conn.

Specialists on Gaskets and Packings For More Than 80 Years
Representatives: Atlanta, Ga.; Detroit, Mich.; St. Louis, Mo.; Los Angeles, Cal.; Minneapolis, Minn.; Washington, D. C.; Cincinnati, Ohio.

If you write maker identify as IEN - 5587

BUILDING . . Structural material to build floors, walls, beams, roofs

Source: UNITED STATES PLYWOOD CORP.
55 W. 44th St., Room 500, New York 18, N. Y.

Developed in Sweden

Zeprex trade names a new Unicellular building material on which the company has obtained exclusive manufacturing and sales rights in the United States. The material is about one-fifth as heavy as concrete and about five times as strong, based on density of 100 lb. per cubic foot. It has ten times the insulating qualities of concrete. It is incombustible and has a pleasing oyster white surface that can be decorated.

It is manufactured in beam and slab form, the latter in widths to 20 in. and lengths to 18 feet. Depending on the desired strength and insulation value, thickness can range from 2 to 10 inches. The material can be sawed, drilled, cut with an axe and nailed.

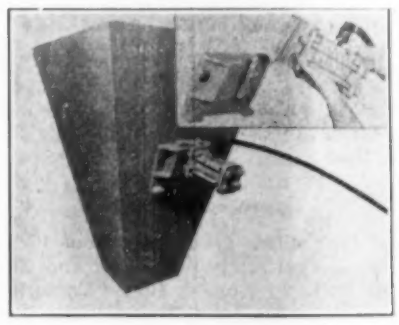
Basic component is monocalcium silicate in combination with cement, water and certain chemicals. A cross-section looks like a minute honeycomb with thousands of tiny spherical cells, or pores, separated by very thin walls. It is normally made in densities ranging from 25 to 50 lb. per cu. ft., depending on the purpose for which it is to be used.

It applies successfully under extremes of temperature in both Arctic and Tropical climates. It is immune to termites and practically free from shrinking or swelling. It has good nail holding properties.

If you write maker identify as IEN - 5588

VIBRATING . . Pneumatic unit promotes flow in bins, hoppers, chutes

Source: CLEVELAND VIBRATOR CO.
2736 Clinton Ave., Cleveland 13, Ohio



Powered by shop air

Easy portabilty features the new 2-in. size in the company's Type LSRR pneumatic vibrator, previously described IEN-11740-49. The assembly employs a cast steel bracket at the end of the vibrator cylinder. It assembles in a bracket designed to mount on a bin or hopper as shown in the illustration. The unit is particularly suited for applications where one vibrator can be moved and set in several brackets to serve a number of bins. Dimensions of the vibrator alone are 10 by 5½ by 5 in. and weight is 30 pounds. The bracket measures 11 by 7½ by 2½ in. in overall dimensions.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5589

Hanna® Fast-Acting
Electrically Operated
AIR CONTROL VALVES

★ *up to 500 cycles per minute*
★ *packless-balanced spool type*
★ *low current consumption*

Hanna Electrically Operated Air Control Valves are pilot operated for low current consumption. Single solenoids with spring return may be push button actuated—require only 1/60th second for reversal. Double solenoid models are actuated by momentary contact, capable of 500 cycles per minute. Lines may be connected to bottom, sides, or a combination of both.

Hanna 4-Way Solenoid Valves . . .

Available in ⅜", ½", ¾" and 1" sizes

. . . Featuring optional piping connections.

SEND FOR FREE HANNA VALVE CATALOG No. 254 CONTAINING COMPLETE DETAILS AND SPECIFICATIONS

Hanna Engineering Works

HYDRAULIC AND PNEUMATIC EQUIPMENT . . . CYLINDERS . . . VALVES . . . RIVETERS

1748 Elston Avenue, Chicago 22, Illinois

If you write maker identify as IEN - 5590

MAINTENANCE TIPS FOR YOU
in every issue of the
"NEOPRENE NOTEBOOK"

New products made of neoprene, Du Pont's tough chemical rubber.

On-the-job reports proving neoprene's superiority in the field.

New engineering developments showing neoprene's wide range of applications.

DU PONT
Better Things for Better Living ...through Chemistry

MAIL READER-SERVICE CARD FOR YOUR FREE SUBSCRIPTION

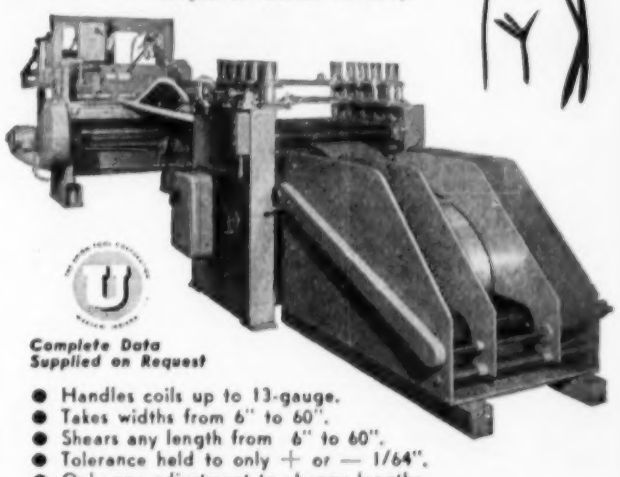
NEOPRENE
The rubber made by Du Pont since 1932

If you write maker identify as IEN - 5591

WITH ONLY ONE OPERATOR
THIS **UNION MACHINE**

- DE-COILS
- LEVELS
- SHEARS
- STACKS

CUTS LABOR COSTS
AUTOMATICALLY
CUTS MATERIAL COSTS
Buy in coils and cut sheet lengths as needed. No delay.



Complete Data Supplied on Request

- Handles coils up to 13-gauge.
- Takes widths from 6" to 60".
- Shears any length from 6" to 60".
- Tolerance held to only + or — 1/64".
- Only one adjustment to change lengths.
- Speeds to 150 l.f.p.m. depending on lengths cut.
- Neatly stacks sheared pieces automatically.
- Will handle steel, aluminum, etc.

UNION TOOL CORP.
320 E. MARKET ST., WARSAW, IND., U. S. A.

USERS SAY UNION CUTS COSTS, SPEEDS PRODUCTION

If you write maker identify as IEN - 5592

Pattern Shown ½ Actual Size

GET BOTH WITH A.W. SUPER-DIAMOND

Where safety and economy are important, choose A.W. SUPER-DIAMOND Floor Plate. No other flooring gives you more foot safety, ease of maintenance, durability—at such low cost!

SUPER-DIAMOND's exclusive, engineered raised-diamond pattern puts 40 anti-skid traction points in every footstep. SUPER-DIAMOND is easy to clean with hose, mop or broom—has no cracks or corners to catch and hold dirt. SUPER-DIAMOND withstands hard blows and heavy loads—resists heat, fire and most chemicals. And you get all these advantages at *no premium price.*

Learn the facts about SUPER-DIAMOND foot safety and economy today. Mail the coupon for our newest booklet on floor safety.

A.W. SUPER-DIAMOND
ROLLED STEEL FLOOR PLATE

ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.

Please send me, without charge, your latest booklet SD-43 on SUPER-DIAMOND safety.

Name _____
Company _____
Address _____ *City* _____ *State* _____

If you write maker identify as IEN - 5593

S.S.WHITE Elastoplastic
PLUGS and CAPS

Slipped into or over the ends of plain tubing, these plugs and caps protect the ends and keep out dirt and moisture.

Made of flexible Vinylite plastic, they are resistant to most oils, offer high electrical insulation, and are easily applied and stay put. For details

WRITE FOR BULLETIN P-5107

THE S.S.White PLASTICS DIVISION
DENTAL MFG. CO. Dept. NP, 10 East 40th St. NEW YORK 16, N. Y.

WESTERN DISTRICT OFFICE: Times Building, Long Beach, California

If you write maker identify as IEN - 5594

Any Temperature Between 325° and 1800° Maintained Accurately

HUPPERT
Model 2 DeLuxe
FURNACE

You couldn't ask for a more dependable furnace for small unit production requiring continuous operation and long hard usage. Accurate control assures you of constant temperatures between 325° and 1800° F. . . always. I. D. 4¼" x 3⅜" x 4¾". 110 Volt A. C. Current Consumption 900 Watts.

$80.00
All Steel Construction

$95.00
Stainless Steel Construction

OTHER MODELS

	I.D.	Temp. Range	Wattage	PRICE All Steel
Model No. 22 DL	4¼" x 3⅜" x 9"	325° - 1800° F	1600	$110.00
Model No. 4 DL	4⅝" x 3¾" x 6"	250° - 1800° F	1600	110.00
Model No. 5 DL	4¾" x 3¾" x 9"	300° - 1900° F	1750	172.00
Model No. 9A DL	6" x 6" x 6"	250° - 1900° F	2000	200.00
Model No. 669 DL	6" x 6" x 9"	300° - 1900° F	2500	248.00
Model No. 10 DL	8" x 4" x 6"	250° - 1900° F	2000	215.00

(Also available in stainless steel at slight additional cost)

Write for catalog, illustrating and describing other models

K. H. HUPPERT CO.
6856 Cottage Grove Ave. Chicago 37, Illinois
Manufacturers of Electric Furnaces and Ovens

If you write maker identify as IEN - 5595

THIS PLANT

Provides TOOLING
and builds SPECIAL MACHINES

Thirty-four years of special machine and tool building has trained SEMCO tool-makers, engineers and skilled workmen—well able to most efficiently design, develop and build your new machinery and production equipment.

Write for a copy of our *Free Pamphlet — "Men, Machines and Equipment."* It gives a practical answer to your tooling, special machine development and experimental problems..

SEMCO
SERVICE MACHINE COMPANY
INCORPORATED
200 MILLER STREET ELIZABETH, N. J.

NEW LITERATURE

Brief reviews to advise you of available new information published by the manufacturers covering products they offer for your use. Each includes identification, size of the material, information it contains so you can judge its value to you.

Identify as IEN - 0298

COPPER ALLOYS . . Summary of catalogs and technical handbooks available from the company on copper and copper alloys, electrical, pipe, tube, fittings, building products, radiant heating, wire cloth. "Chase Literature," 8 pages. Chase Brass & Copper Co., 236 Frank St., Waterbury 20, Conn.

Identify as IEN - 0299

BALANCING . . Electronic balancing machine for rotating parts from ½ oz. to 400 lb. in seven sizes. Pictures show scope, diagram shows operation. "Model M2-S," 6 pages. R. B. Annis Co., 1105 N. Delaware St., Indianapolis 2, Ind.

Identify as IEN - 0300

ROLLER BEARINGS . . Self-aligning spherical type in a range of bore sizes from about 1.5 to 41.7 inches. Ratings and dimensions in 28-page Catalog 200-C together with selection factors, lubrications, fits. Torrington Co., Bantam Bearings Div., 3701 W. Sample St., South Bend 21, Ind.

Identify as IEN - 0301

V-BELTS . . Fractional-horsepower units are listed by machine maker, trade name, model, maker's part number, machine number in "FHP Belt Book," 100 pages, with an interchangeability table. Raybestos-Manhattan, Inc., 63-65 Willett St., Passaic, N. J.

Identify as IEN - 0302

BLOWERS . . Non-overloading airfoil blade design is a feature of new centrifugal blower. Blade design is described, performance curves given in 8-page Catalog 1320. Westinghouse Electric Corp., Sturtevant Div., 202 Readville St., Dept. T-060, Boston 36, Mass.

Identify as IEN - 0303

BOILERS . . Package-type steam generators from 10 to 500 hp. in 14 models are supplied ready to connect and use. Bulletin 102, "Continental Boilers," 4 pages. Boiler Engineering & Supply Co., Keen & Manarvon Sts., Phoenixville, Pa.

Identify as IEN - 0304

ELECTRIC CABLE . . Okoprene-sheathed type is intended to be buried directly in the ground. How it is made, voltage ratings, current-carrying capacities, installation suggestions are contained in 12-page Bulletin OK-1066. Okonite Co., 30 Canal St., Passaic, N. J.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5596

with MULTI-CLEAN CONCRETE FLOOR FINISHES
and THE MULTI-CLEAN METHOD

Concrete floor maintenance ceases to be a time killer and financial burden with the efficient, economical Multi-Clean Method. Multi-Clean Neo-Dry Concrete Sealer or Multi-Clean Concrete Preserver fortifies concrete against abrasion, oils, acids. Eliminates flaking and dusting. Conditions surface for heavy traffic by imparting a tough, sanitary finish . . . is an excellent base for Multi-Clean Anti-Slip Waterproof Wax.

Eliminate long hours of scrubbing and sweeping with the Multi-Clean Scrubber and Multi-Clean Wet-Dry Vacuum, a floor maintenance team unexcelled for reducing floor care time and costs on every type of floor. Write us about your floors and we will show you how to profit by using the Multi-Clean Method.

Write Multi-Clean Prod., Inc., Dept. IE-5 for information

Multi-Clean All-Purpose Scrubber

Multi-Clean Wet-Dry Vacuum

MULTI-CLEAN
2277 Ford Parkway
ST. PAUL 1, MINNESOTA

free! FLOOR MANUALS— Handy file size, each manual deals with a specific type of floor; its characteristics and care . . . concrete, terrazzo, wood, asphalt and rubber tile, linoleum.

If you write maker identify as IEN - 5597

high jobs go fast on the
safety level.....

Dayton's special "Safety Level" working platform gives workman complete confidence. He works faster, more efficiently, uses both hands. Check the "big 6" features that make Dayton your best buy.

1. Rail-guarded "Safety Level" platform.
2. Locks in place automatically.
3. Rubber safety shoes.
4. Light weight—great strength.
5. Economically priced.
6. Complete size range 3' to 16' in height.

Write Dept. J for Bulletin

Dayton safety ladders

Dayton safety ladder co.
2339 GILBERT AVENUE
CINCINNATI, OHIO
In Canada
Safety Supply Co., Toronto

If you write maker identify as IEN - 5598

Spray THIS aluminum *without spatter!*

Background surfaces are not spattered or marred when you spray with
ROYLAC ALUMINUM

Due to special vehicle and solvents, this protective coating dries in motion to a cottony, non-adherent powder at about four feet from the spray gun.

But the surface you WANT to protect receives a superior, corrosion-resistant and tightly bonded film, with a bright aluminum finish, particularly effective exposed to acid-type fumes, salt or moist air.

Roylac Aluminum is plasticized to provide a film of good flexibility and bonding tack, effective for sealing porous surfaces. With its non-reactive vehicle, Roylac is excellent on galvanizing, steel and other basic metals. It is accepted as an economical, fast-drying product finish coat. It covers up to 800 square feet per gallon and dries to a tack-free film in 12 minutes. Also easily applied by brush.

Photo made the day after spray-coating with Roylac Aluminum. Note absence of spray on grass.

Free test sample, specifications and prices on letterhead request.

ROYSTON
LABORATORIES, INC.
P. O. Box 112, Blawnox, Pa.
ROYLAC

If you write maker identify as IEN - 5599

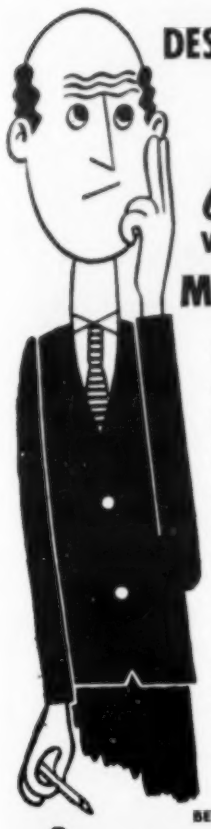
VARIABLE SPEEDS

Just turn a dial to get any rpm. Motor, speed changer and gear train all housed in one unit. ¼ to 50 h.p.

REQUEST VARIDRIVE BULLETIN

U.S. VARIDRIVE
THE MIRACLE MOTOR
U.S. ELECTRICAL MOTORS Inc.
Los Angeles 54, California Box 7058 Milford, Connecticut

If you write maker identify as IEN - 5600



DESIGNING A NEW PRODUCT?
send for
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with "*How-to-use*" data on
MASONITE PRESDWOOD

Here's help for harassed industrial designers. Fact-filled, illustrated booklet tells how and where Masonite Presdwood® adds strength, durability and sales appeal to products in scores of fields. These strong, grainless, all-wood hardboard panels are 28 ways better . . . you can even bend them permanently. Come in 44 types and thicknesses. Send for your copy of "A Guide for Product Designers" today. No obligation.

BETTER HARDBOARDS FOR BETTER PRODUCTS

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"Masonite" signifies that Masonite Corporation is the source of the product

If you write maker identify as IEN - 5601

MODEL 50 *Versatile*
Low Cost ELECTRONIC
THER-MONIC
INDUCTION HEATING UNIT

BRAZING
SOLDERING
HARDENING
ANNEALING
MELTING

FOR THE PRODUCTION LINE, TOOL ROOM or LABORATORY!

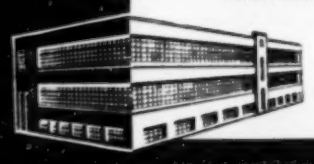
THER-MONIC, pioneer in the field of Induction Heating, offers the only completely contained, electronic generator for continuous production runs with either automatic or hand-feeds, or on small production runs which involve frequent work change-overs. Hundreds already in use; all are acclaimed by owners and operators.

Delivers ready for use—operates on 110V., 60 cycles. Rated in accordance with NEMA standards. Built & certified in accordance with F.C.C. regulations. Unit is similar to our larger sized, high production models. Furnished complete with timer and output transformer. Designed for safe, low voltage work coils.

THER-MONIC INDUCTION HEATING CORP. NEW YORK

$985. F.O.B. Factory

Fully guaranteed. Service and sales in principal cities. Write for literature.



Generators available up to 75 KW output.

INDUCTION HEATING CORPORATION
181 WYTHE AVENUE • BROOKLYN 11, N. Y.
Largest Producers of Electronic Heat Treating Equipment

NEW LITERATURE—*Continued*

Identify as IEN - 0305

CAPACITORS . . Metal-clad subminiature units with silicone end seals and a solid dielectric to operate from minus 55 to plus 125 deg. C. without derating. Ratings and details on this new line in 4-page Bulletin GEA-5934. General Electric Co., Dept. 6X-201, Schenectady 5, N. Y.

Identify as IEN - 0306

CASTINGS . . Information on malleable iron including its properties, use as an engineering material, manufacture and relative cost. "Malleable Iron," 16 pages. Albion Malleable Iron Co., 601 N. Albion, Albion, Mich.

Identify as IEN - 0307

CASTINGS . . Made of heat-resistant alloys for such applications as furnace parts, burner nozzles, chain, heat-treating fixtures. Thermalloy Bulletin T-225, 16 pages, properties and uses. American Brake Shoe Co., Electro-Alloys Div., Abbey Road & Taylor St., Elyria, Ohio

Identify as IEN - 0308

CHUCKS . . Collets, feed fingers and pads for screw machines and lathes are grouped by machine make and model in 26-page Catalog 18 with list prices and stock items indicated. Sutton Tool Co., 51 Taylor St., Sturgis, Mich.

Identify as IEN - 0309

CHUCKS . . Independent, universal, combination lathe chucks, also offset boring heads and a two-jaw drill chuck. Catalog 753, 16 pages, gives specifications in detail. Westcott Chuck Co., P. O. Drawer A-270, Oneida, N. Y.

Identify as IEN - 0310

MAGNETIC CHUCK . . Holds work firmly for heavy milling cuts or production grinding operations. Pictures in new 6-page Power-Grip Bulletin MC-2 show a number of typical examples with chuck sizes and ratings. Sundstrand Machine Tool Co., 2529-33 Eleventh St., Rockford, Ill.

Identify as IEN - 0311

CLEANING MATERIALS . . Line of products to remove oil, grease, dirt, rust from metal parts before painting or plating, also paint strippers, maintenance cleaners. "Industrial Chemicals and Processes," 8 pages. Whitfield Chemical Co., 14223-27 Schaefer Highway, Detroit 27, Mich.

Identify as IEN - 0312

WORK CLOTHING . . In a variety of fabrics and styles for men and women in plant, laboratory and other locations. Color pictures, measuring instructions in 52-page 1953 catalog. Angelica Uniform Co., 1417-21 Olive St., St. Louis 3, Mo.

Identify as IEN - 0313

PROCESS CONTROLS . . Telemetering equipment to measure, record, control process variables over a distance from a few feet to many miles. Schematic circuits, instruments, transmission methods in Metameter Bulletin M-1710, 40 pages. Bristol Co., Griggs & Kelsey Sts., Waterbury 20, Conn.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5603

REED ENGINEERING COMPANY
Modern Metalworking Equipment

BENDING ROLLS
TURNING ROLLS
AUTOMATIC WELDING FIXTURES

REED WELDING POSITIONER
★ Machined face with cast-in "T" slots
★ Machine Tool accuracy
★ 10-to-1 speed variation
★ Ball bearing work table mounting
★ 1000, 2500 lb. models, hand or power tilting
★ Rotating ground connection

WE INVITE YOU . . . to write us for specifications, prices, list of REED users near you. No obligation. Just write on your letterhead.

REED ENGINEERING CO. 1009 W. FAIRVIEW CARTHAGE, MO.

If you write maker identify as IEN - 5604

Tells temperature instantly... keeps it accurate!

● Sylphon Regulator No. 999-T is ideal for maintaining accurate temperature control, for assuring uniform processing conditions. Dial-indicating thermometer tells temperature being maintained at regulator bulb location. Stainless steel frame. 2-ply Sylphon bellows for added power. Sensitive, simple, sturdy and compact. Self-operating. Serves for years. Used on storage water heaters, metal plating tanks, treaters, slashers, etc. Write for Catalog JN-D.

FULTON SYLPHON DIVISION
ROBERTSHAW-FULTON CONTROLS CO. • • KNOXVILLE 1, TENN.
Temperature Controls • Bellows Devices • Bellows Assemblies
Canadian Representatives, Darling Brothers, Montreal

If you write maker identify as IEN - 5605

Improved Method Centrifugal SPRAY DRYER and CONCENTRATOR*

CONTRACT DRYING
We invite inquiries for Contract Drying in our fully equipped, Stainless Steel Plant in Chicago. Shipments can be made direct to our Railroad Switch Track or Truck Docks.

THE DRYING AND CONCENTRATING COMPANY DRYER

Improved method for DEHYDRATING

Solutions, emulsions and materials which can be handled in a liquid form including:

Chemicals
Pharmaceuticals
Milk Products
Blood or Blood Plasma
Soups, Vegetables, etc.

This complete spray drying plant employs a unique centrifugal-type spray head, and consists of a Drying Chamber, Concentrator, Air Heating Unit, Air Filter, Air Supply Fan, Powder Cooler and Sanitary Pumps with variable speed drives for handling the liquid material and controlling the moisture.

*CONCENTRATOR AVAILABLE SEPARATELY

The Concentrator can be operated as a separate unit for reducing liquid products to almost any desired degree of concentration, almost instantaneously, retaining neutral flavors and vitamins.

363R

DRYING and CONCENTRATING CO.
332 SOUTH MICHIGAN AVENUE, CHICAGO, ILLINOIS

If you write maker identify as IEN - 5606

Send for a sample of
G-8
the new grade of laminated plastics

SYNTHANE is now producing G-8—a new, lower-cost glass mat melamine laminate for power and lighting applications.

In addition to combining high fire-and-arc-resistance with excellent mechanical and chemical properties, this new grade of SYNTHANE laminated plastic offers a considerable saving whenever its use is appropriate. G-8 costs less than continuous filament glass-base material—and its dielectric properties are good. Ease in fabrication makes G-8 adaptable to many electrical applications. To learn more about this new material—about its high strength, light weight, low inertia, fire- and corrosion-resistance, and combinations of these properties and a sample for examination—just clip and send the coupon below.

SYNTHANE

Manufacturers of laminated plastics
SHEETS
RODS • TUBES
MOLDED-LAMINATED
MOLDED-MACERATED
FABRICATED PARTS

SYNTHANE CORPORATION
S. River Road, Oaks, Pennsylvania

Gentlemen:
Please send me a sample of new G-8 and complete information on properties.

Name _____
Address _____
City _____ Zone _____ State _____

If you write maker identify as IEN - 5607

BRUNING ELECTRIC ERASER

Saves hours of work... Protects valuable drawings

ERASER CAN'T FLY OUT . . . valuable drawings are safe with a BRUNING Electric Eraser. Exclusive *7-inch* eraser feeds through hollow shaft – can't fly out and let ferrule gouge paper.

SAVES TIME . . . adds extra hours of working time by eliminating tiresome, finger-cramping manual erasing.

RUNS COOL AND QUIET . . . permanently lubricated bearings mean no overheating in steady operation, are mounted in rubber for vibration-free performance. Only one moving part.

EASY TO USE . . . lightweight aluminum housing fits fingers like a pencil. Eraser is extended or replaced in seconds.

Phone or write Bruning — there's an office near you—for more facts and figures on how to save time and tempers with Bruning Electric Eraser. CHARLES BRUNING COMPANY, Dept. R53, 4700 Montrose Avenue, Chicago 41, Illinois. A-3-3

BRUNING

Everything for the Engineer and Draftsman

If you write maker identify as IEN - 5608

NEW LITERATURE—Continued

Identify as IEN - 0314

PROCESS CONTROLS . . "ElectroniK" instruments for temperature, pH, humidity, flow, pressure, concentration are covered by 60-page Catalog 1530 in both electric and pneumatic types. Brown Instruments Div., Minneapolis-Honeywell Regulator, 4456 Wayne Ave., Philadelphia 44, Pa.

Identify as IEN - 0315

TEMPERATURE CONTROLS . . Electronic equipment to provide control for industrial processes. Components are set up in 20-page Electromax Catalog ND-47 so you can choose a "control package" suited to your needs. Leeds & Northrup Co., 4934 Stenton Ave., Philadelphia 44, Pa.

Identify as IEN - 0316

CONVEYOR BELTS . . Made of wire mesh to handle products from doughnuts to safety glass. 140-page catalog, sent on letterhead request, shows industry flow sheets and points where wire mesh belts can be used, presents technical data on alloys and weaves, drives, and application pictures. Cambridge Wire Cloth Co., Vienna Road, Cambridge, Md.

Identify as IEN - 0317

PNEUMATIC TUBE . . Set the dials on a carrier for the company's Automatic Airtube conveyor, insert the carrier into the pneumatic tube, and a switch at the destination you select is tripped by the dial contacts to divert the carrier to that particular station. Six-page Bulletin A-101-52 shows how. Lamson Corp., 303-5 Lamson St., Syracuse 1, N. Y.

Identify as IEN - 0318

SPIRAL CONVEYORS . . Sectional flight, helicoid, mixer, cut flight, ribbon and cast iron types are described in new 48-page Catalog 851 with selection and capacity information. Jeffrey Mfg. Co., 914 N. 4th St., Columbus 16, Ohio

Identify as IEN - 0319

COOLING . . Temperature-actuated drive for the fan on a heavy-duty engine disengages the fan when cooling is not required. How it works and engines on which it can be used are in 4-page Thermatic Bulletin 558. Schwitzer-Cummins Co., 1123-27 Massachusetts Ave., Indianapolis 7, Ind.

Identify as IEN - 0320

CUTTING TOOLS . . Carbide-tipped milling cutters, slitting saws, keyseat cutters, drills, centers, rockdrills. Specifications on about 800 units in 48-page catalog. Nelco Tool Co., 264-68 Center St., Manchester, Conn.

Identify as IEN - 0321

CUTTING TOOLS . . Carbide-tipped turning, threading, boring tools, milling cutters, standard carbide blanks, described with list prices in 60-page Catalog VR-441 along with a grade selection chart, speed and feed data. Vascoloy-Ramet Corp., 850 S. Market St., Waukegan, Ill.

Identify as IEN - 0322

DRIVE CHAIN . . Roller chain and sprocket stock drives, also chain and sprockets individually, chain-type flexible shaft couplings. Selection, sizes, list prices in 56-page Catalog 52-1. Baldwin-Duckworth, Div. Chain Belt Co., 358 Plainfield St., Springfield 2, Mass.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5610

If you write maker identify as IEN - 5611

If you write maker identify as IEN - 5612

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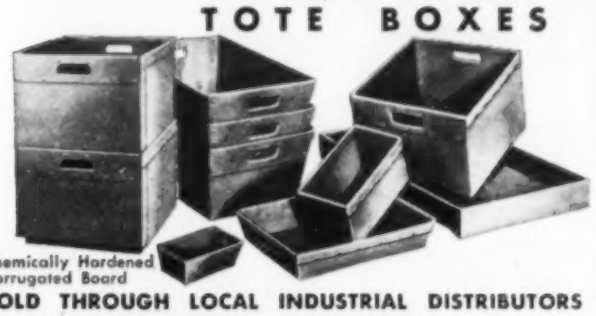
If you write maker identify as IEN - 5614

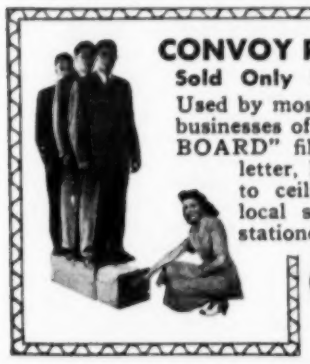
FAMOUS "CHEM-BOARD"* CONVOY TOTE BOXES



*Chemically Hardened Corrugated Board

SOLD THROUGH LOCAL INDUSTRIAL DISTRIBUTORS

Cost—weigh—50% to 60% less than steel. A wide range of sizes in standard and custom made NESTING, STACKING, VERTICAL TOTE BOXES. Write for complete information, prices, name of distributor in your area.



CONVOY RECORD STORAGE FILES

Sold Only by YOUR LOCAL STATIONER

Used by most famous names in industry and businesses of all kinds. CONVOY "CHEM-BOARD" files for record storage made in letter, legal, and 12 other sizes. Stack to ceiling, mate together. Call your local stationer or write for name of stationer nearest to serve you.

CONVOY, INC.
Canton 6, Ohio
P. O. Station B, Box 216-1

If you write maker identify as IEN - 5615

It's a lot easier to work with RIGID

Extra-Utility Pipe Vises

Compare those work-saver RIGID Vises with any others and you see the bonus of extra utility you get for your money. Kit vise is easily toted to the job, quickly clamped on edge of bench or plank, ready for use. All other RIGID vises have handy integral pipe benders and rests to make cutting and threading easier. Full-width firm-gripping jaws of top quality tool-steel, bodies of rugged special malleable—for years of service. 9 models, yoke and chain, 23 sizes, meet every need. Get your money's worth—buy RIGID Vises at your Supply House.

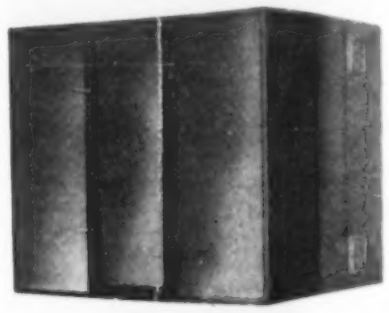
THE RIDGE TOOL COMPANY • ELYRIA, OHIO

RIGID
Work-Saver Pipe Tools

If you write maker identify as IEN - 5617

TESTING . . Prebuilt screen room for interference-free electronic tests

Source: RFI SHIELDED ENCLOSURES INC.
3632-36 N. Lawrence St., Philadelphia 40, Pa.



Ask for Bulletin 1

Solid enclosure, as well as shielding action, is provided by copper sheet panels in the construction of this new screen room. The panels are joined to rigid copper plated channels in bolted assembly. The construction enables inexperienced workers to assemble a room or take it apart, either indoors or outside, using standard tools. Height is 8 feet. Eight floor sizes range from 6 by 8 ft. to 15 by 10 feet. Air conditioning equipment and provision to enter mechanical and electrical services can be specified.

If you write maker identify as IEN - 5618

PAINTING . . Vinyl primer for application on clean ferrous metal

Source: THOMPSON & CO.
1083-87 Allegheny Ave., Oakmont, Pa.

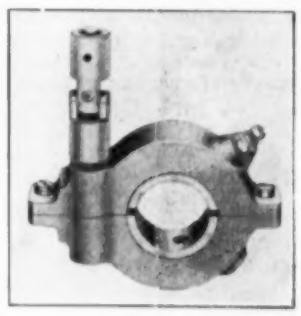
Technical data upon request

Type FS-3 is a new liquid material, yellow in color with a flat sheen, to roller coat on clean ferrous surfaces. It then is baked at 200 deg. F. for 15 min. to provide a corrosion resistant undercoating for a subsequent top finish. The material chemically pretreats the metal and covers it with a thin vinyl primer film in one operation.

If you write maker identify as IEN - 5619

DRIVE . . Worm and gear takeoff for a counter or revolution indicator

Source: DURANT MFG. CO.
1930 N. Buffum St., Milwaukee 1, Wis.



Locks to shaft

Reduction ratio is 10 to 1 between the driving member and the universal joint in this new power takeoff. It applies on a rotating shaft measuring ⅜ to 1 in. in diameter. The universal joint is bored for a shaft 0.3125 in. in diameter. The drive sleeve and its housing are split to position the unit anywhere on the drive shaft as desired.

The assembly includes a locking ball that completes the connection when the housing is assembled and its screws tightened. Maximum thickness is ⅞ inch. Width is 3⅞ inches. Housing center to the end of the universal is 2¾ inches.

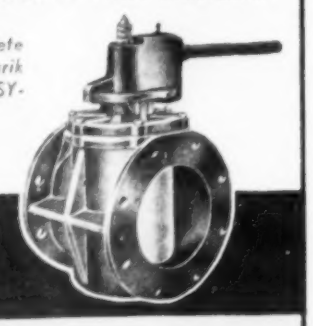
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5620

VALVE LEAKAGE COSTS MONEY!

STOP YOUR LOSSES WITH DeZURIK VALVES. Every leaking valve is an expensive valve, piling up costs in line-losses as well as in shut-downs, clean-up time, repairs and replacements. DeZURIK Easy-Operating PLUG VALVES will stop those losses in your plant because they STOP LEAKS. On any flow—air, liquid, fibrous, slurry—DeZurik's long-life, rubber-faced plugs seal dead-tight every time. They're YOUR ANSWER to YOUR PROBLEM.

Write for complete catalog of DeZurik friction-free EASY-OPERATING VALVES



DeZURIK SHOWER CO.
SARTELL, MINN.

MADE IN ENGLAND
BY MILLSPAUGH, LTD. SHEFFIELD

If you write maker identify as IEN - 5621

free Bulletin ON Delpark

FULL FLOW, SELF CLEANING
INDUSTRIAL FILTRATION

Here's literature that can help you solve filtration problems in your plant.

The famous Delpark Industrial Filter is designed for the maximum of filtration with the minimum of maintenance.

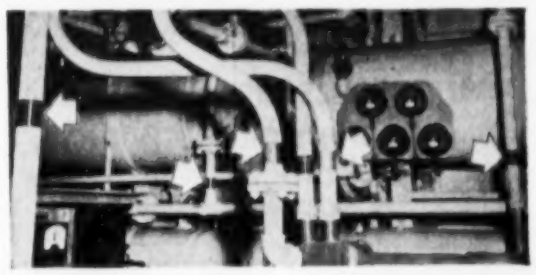
Full flow, self cleaning, continuous, fully automatic, Delpark Industrial Filter applications include the filtration of coolants, quenching oils, paint spray-booth water, air-conditioning wash water, and numerous other applications.

Write today for this free booklet and acquaint yourself with the facts on the finest in Industrial Filtration.

Backed by More Than 30 Years in Industrial Filtration

INDUSTRIAL FILTRATION COMPANY
95 INDUSTRIAL AVENUE LEBANON, INDIANA

If you write maker identify as IEN - 5622



marking with plastic tape...

EASY, FAST, INDELIBLE

Production doesn't have to wait or detour while you're marking with a pressure-sensitive tape produced from VINYLITE Brand Resin.

It's applied in a few minutes, without special equipment. It's effective at once — sticks instantly, requires no drying time. It outlasts conventional materials five to one.

Pressure-sensitive tapes made from VINYLITE Brand Resins are tough and abrasion-resistant. Heavy traffic makes them stick tighter. They come in a variety of lasting colors that stand out wherever you put them. They withstand oil, most acids, water, salt, alkalies, and cleaning materials.

There's a wide range of uses for these tapes. Besides marking floors, they protect and identify chemical plant pipelines, wrap wire, seal bottle caps, weatherstrip window frames. They're flexible—conforming to oddly shaped surfaces. They're easily stripped off.

VINYLITE Resins of varying properties are available for plastic uses throughout defense and industry. To learn more about them, write Dept. PN-3.

Data courtesy Minnesota Mining & Manufacturing Co., St. Paul 6, Minn., originators of "Scotch" Brand Pressure-Sensitive Vinyl Plastic Electrical Tape.

Vinylite BRAND **RESINS**

TRADE MARK

BAKELITE COMPANY
A Division of
Union Carbide and Carbon Corporation
UCC
30 East 42nd Street, New York 17, N.Y.

If you write maker identify as IEN - 5624

now! stop stoppage in bins & hoppers with

PneuBin

. . . the only device that feeds stubborn materials uniformly & noiselessly from bins & hoppers by positive displacement

Pulsating Neoprene panels move the contents, not the bin . . . prevent arching and funneling, eliminate noise, save bin repairs, permit closed tops. PneuBin succeeds where other devices fail! Write for free "Flow Stoppage Report" form. A product of GEROTOR MAY CORP., Baltimore 3, Md. . . . manufacturers of

GEROTOR hydraulic pumps & motors

If you write maker identify as IEN - 5625

TROUBLE-FREE CARBON SEAL RINGS FOR MECHANICAL Shaft Seals

In addition to many standard types, recent developments in Stackpole carbon-graphite shaft seal rings include grades that are highly effective in the presence of acids and other corrosive chemicals. As long time specialists in this field, Stackpole offers unsurpassed facilities for engineering suitable grades for practically any application. Write for recommendations, sending details of your problem.

STACKPOLE

STACKPOLE CARBON CO., St. Marys, Pa.

If you write maker identify as IEN - 5626

Here is Power at the Speed You Need

Write today for your copy of this NEW 20-page catalog on SHAFT-KING the NEW Shaft-Mounted Speed Reducer.

It will pay you to get complete information about SHAFT-KING before you buy any speed reducer. It outperforms all others in its size range. It's made by American, the originator of shaft-mounted speed reducers.

The American Pulley Company
4240 Wissahickon Ave., Philadelphia 29, Pa.
Gentlemen:
☐ Please send your new Shaft-King Catalog
☐ Send name of local Shaft-King distributor
☐ We need help on a slow speed drive problem
Name_____
Firm_____
Address_____
City_____ Zone___ State_____

NEW LITERATURE—Continued

Identify as IEN - 0323

DUST COLLECTING . . Tube-type filter has a high-pressure reverse air jet to keep it clean. Bulletin 528, 16 pages, describes the action, shows performance curves on various types of dusts, includes a chart of capacities. Day Co., 808-12 Third Ave. N. E., Minneapolis 13, Minn.

Identify as IEN - 0324

DUST COLLECTING . . Reverse air flow is employed to keep cloth-type collector clean. Diagrams in 6-page Bulletin B-915 show how. Drawings illustrate internal arrangement. Dimensions are tabulated on 10 available dust-collector sizes. Pangborn Corp., 230 Pangborn Blvd., Hagerstown, Md.

Identify as IEN - 0325

ELECTRONIC TUBES . . Miniature types of all makes, 250 in number, listed by designations, ratings, operation and characteristics, base diagrams in 8-page Sixth Edition of CBS-Hytron "Miniature Reference Guide." Hytron Radio & Electronics Corp., 102 Endicott St., Danvers, Mass.

Identify as IEN - 0326

ELEVATORS . . Portable hand and electric types with single, hinged and telescopic uprights for lift height to 30 ft. and load capacity of 500 to 5,000 pounds. Bulletin 5211, 36 pages, shows a range of models along with illustrated suggestions on how to use them. Barrett-Cravens Co., 4609 S. Western Bldg., Chicago 9, Ill.

Identify as IEN - 0327

ELEVATORS . . Portable hydraulic elevators in battery operated design to 1,000 lb. and hand operated to 750 lb. Dimensions and specifications in 4-page "Hydraulic Lifts." Big Joe Mfg. Co., 90 W. Jackson Blvd., Chicago 7, Ill.

Identify as IEN - 0328

ELEVATOR DOORS . . Counterbalanced and counterweighted designs for freight elevators, also dumbwaiter doors, electric operators. Layout drawings, details on steel construction, types in 12-page Catalog G2-2. Guilbert Inc., 1103-7 Frankford Ave., Philadelphia 25, Pa.

Identify as IEN - 0329

EXPLOSIVES . . Nitroglycerin and ammonia dynamites, gelatins, permissible explosives, seismograph explosives, blasting powders, detonators, fuses, blasting machines, accessories, and a list of 66 "don'ts." "Explosives and Blasting Supplies," 64 pages. Hercules Powder Co., 1940 Delaware Trust Bldg., Wilmington 99, Del.

Identify as IEN - 0330

FASTENINGS . . Bolts, screws, nuts., washers, rivets in brass, Monel, aluminum, stainless. Stock sizes in 12-page pocket folder, "Everlasting Fastenings". H. M. Harper Co., 8202 Lehigh Road, Morton Grove, Ill.

Identify as IEN - 0331

FLOOR MATERIALS . . Crushed and graded emery employed as the aggregate in a concrete floor produces a hard, tough, non-slip heat-resistant and non-porous surface. Instructions in 8-page Bulletin 653. Walter Maguire Co., 60 E. 42nd St., 45th Floor, New York 17, N. Y.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5627

Its all in the Heat Treatment

ORIGINATORS OF THE SUPER SAFE STEEL STAMPS

The "Tough" back to absorb hammer blows without crushing or distorting —The "SOFT" center to cushion the shock — The "HARD" tip to insure cleaner impressions and a longer lasting stamp make the RICK the better safer stamp. These stamps are made in ANY type to fit ANY holder.

WRITE TODAY for ADDITIONAL INFORMATION

We are also manufacturers of—
- Special branding and knurling wheels .
- Engraved plastic molds . . .
- Name stamps . . .
- Designs and trade marks . . .
- Embossing dies . . .
- Various Marking Dies and Tools

PITTSBURGH STENCIL and TOOL COMPANY
REEDSDALE and SCOTLAND STREETS
PITTSBURGH 12, PA.

If you write maker identify as IEN - 5628

speaking of ECONOMY . .

Logan Brings It!

No. 935-2 QUICK CHANGE GEAR TURRET LATHE
11" Swing, 1" Collet Capacity, 1⅜" Spindle Hole, 43⅛" Bed

NO OTHER LATHE of comparable specifications can match the Logan in economy. The Logan is quickly set up for every type of lathe operation. The lasting accuracy that results from advanced design and rugged, overall construction keeps production at peak efficiency and holds costs down. For example, the Logan ball bearing spindle needs no adjustment for any speed from 45 to 1500 rpm, a feature that assures sustained spindle accuracy and saves maintenance. Self-lubricating bronze bearings protect vital points against wear and prolong service life. With its 11" swing and 1" collet capacity, the Logan can bring precision with economy to most of your lathe operations. *Write for the Logan Catalog.*

LOOK TO LOGAN FOR BETTER LATHES AND SHAPERS
LOGAN ENGINEERING CO.
4901 West Lawrence Avenue, Chicago 30, Illinois

If you write maker identify as IEN - 5629

first in stainless steel fastenings

INDUSTRIAL buyers have learned to depend on ANTI-CORROSIVE for fast, dependable service on all types of stainless steel fastenings. Draw on our IN STOCK inventory of more than 7,000 items and sizes and a production capacity geared to produce precision fastenings in large or small quantities, from huge ⅞" hexagon head bolts to tiny #0-80 machine screw nuts.

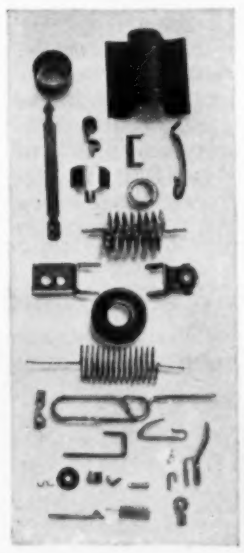
Write for Catalog 53V today.

anti-corrosive metal products co., inc.
castleton-on-hudson, new york

If you write maker identify as IEN - 5630

Priced Right!

WIRE FORMS & Metal Stampings



High-speed, quality production with custom-made precision. Wire formed to any shape for every need.

IMMEDIATE CAPACITY FOR DEFENSE SUB-CONTRACTS

STRAIGHTENING & CUTTING
Perfect straight lengths to 12 ft.
.0015 to .125 diameter

WIRE FORMS
.0015 to .080 diameter

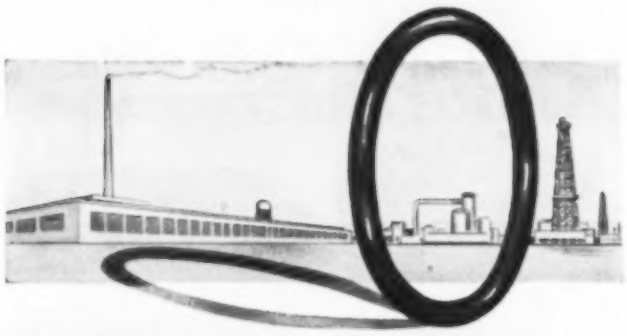
SMALL METAL STAMPINGS
.0025 to .035 thickness
.062 to 3 inches wide

Specializing in Production of Parts for Electronic, Cathode Ray Tubes and Transitors

Write for illustrated folder
Send Blueprints or Samples for Estimate

ART WIRE and STAMPING COMPANY
2-G BOYDEN PLACE
NEWARK 2, N. J.

If you write maker identify as IEN - 5631



MINNESOTA O-RINGS

Basic in Hydraulic Applications

Engineers have come to recognize Minnesota O-Rings for their great tensile strength . . . resistance to oil swelling . . . capacity for extreme hydraulic pressure. The *injection molding* process permits extremely close tolerances while keeping the daily production high and the rejection rate low. They're built to stand up under a wide variety of conditions including rapid reciprocating motion. This involves hydraulic and pneumatic cylinders in *transmission, tractors, jacks, machine tools, etc.* Available in many rubber compounds including silicone. Your inquiry will be handled promptly.

INJECTION MOLDED TO EXACT UNIFORMITY

Write for descriptive pamphlets covering the Minnesota line of O-Rings and other injection molded rubber parts.

MINNESOTA RUBBER & GASKET CO.
3630 Wooddale Avenue • Minneapolis 16, Minnesota

If you write maker identify as IEN - 5632

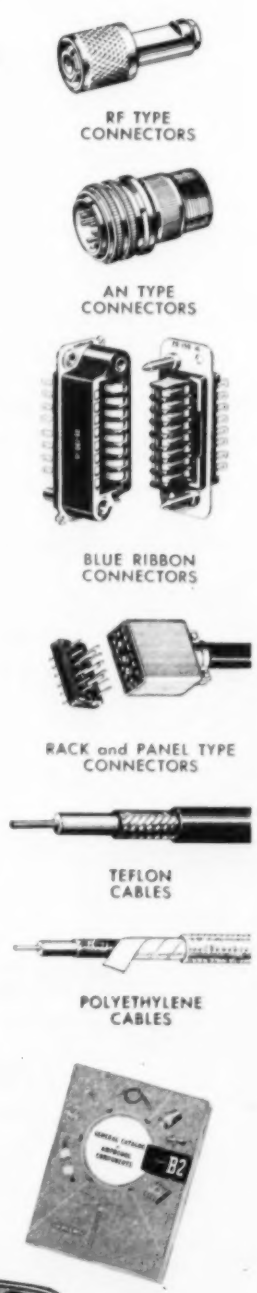
NINE THOUSAND

quality electronic components —from a single source!

Shown here are a few of the more than 9,000 AMPHENOL components for power, control and instrument circuits. The majority were developed in close cooperation with government and customer engineers to meet specific needs in the electronic industry.

AMPHENOL can usually supply just the right connector or cable needed for a particular circuit from this wide selection. If your needs are special, AMPHENOL Engineers will work with you in the development of a custom component to meet your most exacting requirements.

Whether for product use, manufacturing and testing equipment or laboratory instruments —long, efficient performance is assured when you specify AMPHENOL components.



WRITE *today for your copy of General Catalog B-2.*

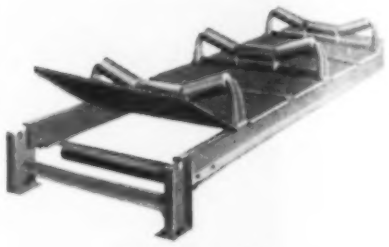
AMPHENOL

AMERICAN PHENOLIC CORPORATION
chicago 50, illinois

If you write maker identify as IEN - 5634

CONVEYING . . Belt roll sections to place and rearrange frequently

Source: TRANSALL INC.
129 N. 11th St., Birmingham 4, Ala.



Specified width

Supporting chairs, side channels, troughing roll assemblies, straight return rolls, protective deck plates make up a new demountable assembly of sectional type belt conveyor. The sections are available in 12-ft. lengths with the parts interchangeable between sections. Special assemblies can be supplied to allow for expansion and contraction on installations subject to wide temperature change. The rolls are the company's standard 4 or 5-in. factory lubricated and sealed design for heavy duty service.

If you write maker identify as IEN - 5635

RECTIFYING . . Power supplies for electroplating, 50 to 2,000 amp.

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.

Interchangeable components

Selenium or copper oxide rectifying stacks are employed in a new line of metallic rectifier power supplies for electroplating and anodizing operations. The assemblies are in rectangular housings for floor or wall mounting. Control can be either manual or automatic.

Laboratory units are rated 50 amp. at 9 volts and 65 amp. at 18 volts. Units for barrel plating are available in ratings from 500 amp. at 6 volts to 2,000 amp. at 12 volts. Production assemblies range from 500 amp. at 6 volts to 2,000 amp. at 48 volts. Manually controlled assemblies can be converted to automatic control in the field.

If you write maker identify as IEN - 5636

SEALING . . Self-adhesive felt in tape and sheets, 3/8 to 36 inches

Source: FROLL MFG. CO.
9902 S. Ridgeland Ave., Dept. 21, Chicago Ridge, Ill.

For wood, metal, plastic

Setting glass, sealing metal-to-metal contacts against dust and water, packaging delicate instruments, protecting equipment against damage in transit, are typical uses for the company's new self-adhesive felt. It is available in rolls with thickness to 1/4 in. and width from 3/8 to 36 inches or in flat pieces square or die cut to specified size. There is no liner or backing to be removed prior to application. The adhesive bonds firmly and is waterproof.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5637

Snap up Your Products with COLORFUL HANDLE BAR GRIPS

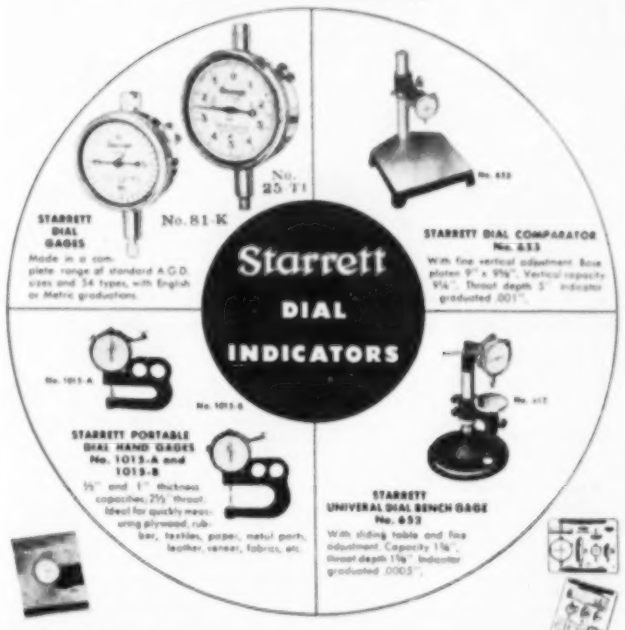
Attention Manufacturers of all wheel goods and portable equipment with handle bars! Snap up your products with "FLEX-GRIPS"—made of tough, flexible vinyl plastic. Popular styles and standard sizes for 1" bars or less. Brilliant colors of Red-Blue-Green-Maroon. Also Black and White.

Also a full line of all-Black rubber grips in all sizes to fit 1-1/16" bars or less. For complete details and quantity prices write:

The OHIO RUBBER Co.
DIVISION OF EAGLE-PICHER COMPANY
122 BEN HUR AVENUE • WILLOUGHBY, OHIO

If you write maker identify as IEN - 5638

MADE TO STARRETT STANDARDS OF ACCURACY AND PERFORMANCE



WRITE FOR YOUR COPIES

DIAL INDICATOR CATALOG describes and illustrates the complete line with specifications and useful data . . . Address Department N.

TRANSFER and DIMENSION CHARTS. Full scale details for quick tracing plus complete dimensions of all indicators and contact points.

Starrett
SINCE 1880 WORLD'S GREATEST TOOLMAKERS
THE L. S. STARRETT COMPANY Athol, Massachusetts, U. S. A.
The THROUGH YOUR INDUSTRIAL DISTRIBUTOR

If you write maker identify as IEN - 5639

IS RUST EATING AWAY YOUR PARTS INVENTORY?

Then you Need MARVELLUM VPI® WRAP

Paper coated with a Volatile Corrosion Inhibitor

Avoid the damages of destructive rust, the loss of time and money spent in refinishing inventory parts, the mess and bother of slushing and cleaning. Wrap your parts — or merely line your bins — with economical Marvellum VPI.

VPI is a paper coated with a new chemical which slowly vaporizes, forming an invisible protective film that prevents corrosion. Used as a wrap it keeps rust away for years. Used as a liner it gives you many months of trouble-free storage. Developed during the war as a protective wrap for shipment of steel and aluminum parts, many companies are also using it to protect their inventories or as a lining for tote boxes on the production floor.

Marvellum VPI is available in sheets, envelopes or special containers. Marvellum has complete facilities under one roof for designing, producing and coating VPI Wraps. Also makers of a wide range of other barrier materials to meet your needs for product protection. Distributors in all major cities.

Get all the facts. Write for FREE BOOKLET.

The Marvellum Company
24 APPLETON STREET HOLYOKE, MASS.
First and Foremost in VPI Protection

If you write maker identify as IEN - 5640

KNU-VISE pliers help speed aircraft production

Twenty-two Knu-Vise toggle-action pliers accompany this huge aircraft assembly jig when delivered to a prominent airplane manufacturer. The pliers play an important part in attaching longerons and aluminum angles to section of fuselage.

This job shows one of the countless ways in which Knu-Vise pliers and clamps are used to facilitate production.

Three Knu-Vise models selected for their high efficiency in specific operations: P-400, P-1200, P-1600.

Photo, courtesy of Banner Die & Fixture Co., Detroit.

KNU-VISE PRODUCTS LAPEER MFG. CO.
3060 DAVISON ROAD • LAPEER, MICHIGAN
WESTERN DIVISION: 422 MAGNOLIA STREET • GLENDALE, CALIFORNIA

If you write maker identify as IEN - 5641

BETTCHER MANUFACTURING CORPORATION . . .

says PHILLIPS degreasing
★ speeds up production
★ cuts overall production costs
★ gives more efficient cleaning

Phillips Model 84 degreaser gives fast, efficient cleaning in the Bettcher plant

PHILLIPS VAPOR DEGREASERS

- Higher operating temperature, greater capacity.
- No rinse, blast or drying operations.
- Power consumption only 70% in full production.
- Sizes, types for every need.
- Accurate, economical, safe solvent control.

Bettcher Manufacturing Corporation of Cleveland, Ohio has found that Phillips degreasing is vitally important in keeping costs low. Two Phillips batch type degreasers plus Phillsolv (stabilized and inhibited) are used to give fast, efficient cleaning of conversion heater parts. As a result, cleaning costs have been reduced 50% by this modern Phillips method. Parts are cleaner too, making possible further savings in finishing.

This is how the Phillips system helps get more profitable production. No matter what your own cleaning needs are, there is a Phillips unit to fit. Check with Phillips today for metal cleaning that cuts costs and improves cleaning at the same time.

SEND FOR THIS CATALOG

Complete information kit. Details on sizes, styles, installation. Illustrated bulletin and vapor degreasing handbook.

Phillips MANUFACTURING COMPANY
3461 Touhy Avenue • Chicago 45, Illinois
Engineered Metal Cleaning Equipment

If you write maker identify as IEN - 5642

Get these BULLETINS...

Learn how these

RAYMOND

HYDRAULIC TRUCKS & TABLES
can cut costs, save time in your plant. Fill in and mail the coupon below for bulletins now!

Lightweight PALLET LIFT TRUCK
Watch one man handle 2,000 lb. loads with this *Raymond* Pallet Truck! Hydraulic power does heavy lifting. Separate pedals for lifting and lowering—270° turning radius.

Heavy Duty PALLET LIFT TRUCK
Handle heaviest loads with ease with this rugged *Raymond* Truck! It's fully hydraulic, has exclusive finger-tip lowering, 360° turning radius. 4,000 or 6,000 lb. capacities.

SKID LIFT TRUCK
Put this *Raymond* Truck to work handling skid loads! It's hydraulically operated, has exclusive finger-tip lowering, 360° turning radius. 2,500; 4,000 or 6,000 lb. capacities.

SHEET & STRIP FEEDING TABLE
Feed sheets faster at presses, cutting machines, forming equipment with this *Raymond* Table. Keeps material at correct working level. 2,000 to 20,000 lb. capacities.

Portable ELEVATING TABLE
Use this *Raymond* Table for die handling, sheet feeding, work positioning or loading! Features 30" square top, 2,000 lb. capacity. Standard Model elevates from 28" to 44"—Telescopic Model, from 28" to 50".

HIGH LIFT TRUCK
Pick this *Raymond* Truck if you do die handling, loading, work positioning, ceiling maintenance!
It's a lift truck and tiering truck combined. Hand or electrically-driven hydraulic power unit, 60" or 108" elevated height. 1,000 lb. capacity.

GET THE FACTS

The RAYMOND CORPORATION
3512 Madison St., Greene, N.Y.

Please send me Bulletins describing: ☐ 2,000 lb. Pallet Truck; ☐ 4,000 lb. Pallet Truck; ☐ Skid Truck; ☐ Portable Elevating Table; ☐ Sheet & Strip Feeding Table; ☐ High Lift Truck.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

NEW LITERATURE—Continued

Identify as IEN - 0332

FLOOR MATERIALS . . Traffic can roll over a Swift-Floor resurfacing job 60 seconds after completion, according to new 4-page Bulletin 62-B, which illustrates a number of examples. Monroe Co., 10701-5 Quebec Ave., Cleveland 6, Ohio

Identify as IEN - 0333

GLASS PRODUCTS . . What the company and its subsidiaries make are shown in 16-page Form 725. They include Duraglas bottles and jars for food products, metal and plastic closures, Libbey table glassware, Kaylo insulation, Kimble block and chemical glass, Glasco surgical glassware. Owens-Illinois Glass Co., 538 Bank Bldg., Toledo 1, Ohio

Identify as IEN - 0334

HANDLING BIN . . Aluminum unit for bulk material has a line of accessories for filling, transporting, storing, discharging, weighing, blending. What it will do, what it will handle, and how they work is in 16-page Catalog 3. Tote System Inc., 702 S. Seventh, Beatrice, Neb.

Identify as IEN - 0335

HANDLING CONTAINERS . . Trays, boxes, carriers for parts in process from turbine blades to instruments are made of tough Royalite plastic. You may be interested in the range of examples in 6-page Bulletin JP-500. Jered Engineering & Mfg. Co., 2321-25 E. 9-Mile Road, Hazel Park, Mich.

Identify as IEN - 0336

ELECTRICAL INSULATION . . Asbestos-base materials, Quinterra and Quinorgo, in roll, tape, sheet form. Examples of how their properties are utilized in product design comprise most of new 32-page Publication EL-40A. Johns-Manville, 22 E. 40th St., Room 1201, New York 16, N. Y.

Identify as IEN - 0337

ELECTRICAL INSULATION . . Plastic and glass-cloth tapes for wiring, repair, splicing. Suggestions on use in 12-page illustrated "Scotch Electrical Tapes." Minnesota Mining & Mfg. Co., 902 Fauquier St., St. Paul 6, Minn.

Identify as IEN - 0338

MERCURY LAMPS . . Fluorescent "golden light" mercury vapor and straight mercury-vapor lamps for plant and outdoor lighting. How they work, radiation and operating characteristics, all in 24-page Bulletin A-5112. Westinghouse Electric Corp., 2-4 MacArthur Ave., Bloomfield, N. J.

Identify as IEN - 0339

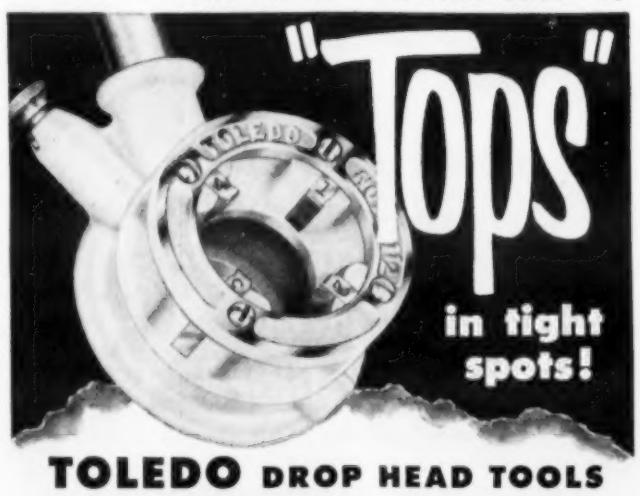
MARKING TOOLS . . Steel stamps and dies in number, letter, symbol types; also die holders, sets, roll-marking dies and segments, type and holders, embossing dies, numbering heads. Catalog E-53, 32 pages. Parker Stamp Works Inc., 702 Franklin Ave., Hartford 1, Conn.

Identify as IEN - 0340

SOUND METERS . . Portable instruments to measure sound level in a given location or in an operating equipment. Bulletin 797-A, 12 pages, covers the instruments, accessories, and sound-analysis equipment. General Radio Co., 273-77 Massachusetts Ave., Cambridge 39, Mass.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5644



TOLEDO DROP HEAD TOOLS

HANDY FOR CLOSE CORNER JOBS. These popular Toledo Ratchet Threaders are small, light, compact! Produce clean-cut threads easily . . . anywhere!

QUICK CHANGE OF SIZES. Die heads drop into ratchet from either side, held securely.

DIES OF FINEST TOOL STEEL. Precision-ground. Die segments can be reground when dull or replaced at small expense. Three models: No. 00—⅛" to ¾"; No. 11—⅛" to 1¼"; No. 12—½" to 2" pipe.

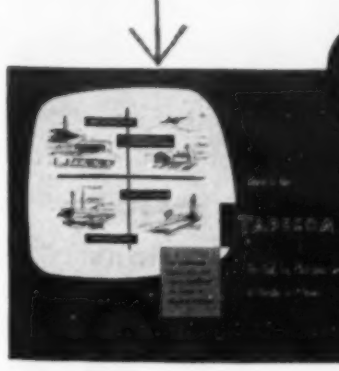
ORDER THROUGH YOUR SUPPLY HOUSE. Write for catalog. The Toledo Pipe Threading Machine Co. Toledo, O.

RELY ON THE LEADER TOLEDO

PIPE TOOLS . . . POWER PIPE MACHINES . . . POWER DRIVES

If you write maker identify as IEN - 5645

HOW TO PROTECT VULNERABLE SURFACES AGAINST CORROSION



New TAPECOAT Booklet Presents Proved Methods of Protection With Coal Tar Coating in Handy Tape Form

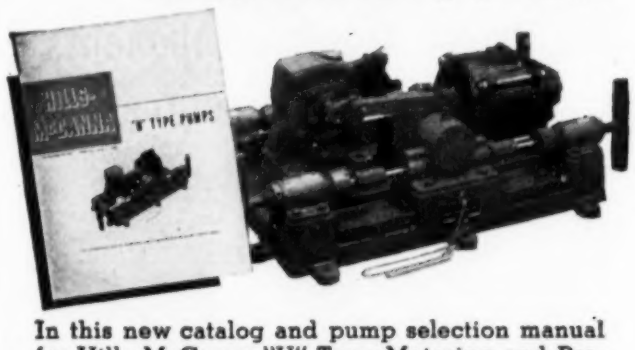
Wherever you have a corrosion problem, you will find this guide helpful in working out an economical and practical solution. Based on the experience and research of TAPECOAT engineers since 1941, this factual booklet shows where and how TAPECOAT coal tar coating in handy tape form can be used to overcome corrosive action—both underground and above ground. It presents proved methods of protecting pipe, pipe joints, fittings, couplings, tanks and other vulnerable surfaces, together with case histories demonstrating the ability of TAPECOAT to meet the most severe conditions.

Write for your copy of this helpful guide today.

The TAPECOAT COMPANY
Originators of Coal Tar Tape Protection
1553 Lyons Street
Evanston, Illinois

If you write maker identify as IEN - 5646

Here's a handy guide to the selection of metering and proportioning pumps



In this new catalog and pump selection manual for Hills-McCanna "U" Type Metering and Proportioning Pumps is all the information for the selection of exactly the right pump for handling over 300 substances. If your operations involve the metering or proportioning of small volume flows, we'll be pleased to send a copy on request. HILLS-McCANNA CO., 2347 W. Nelson Street, Chicago 18, Illinois.

HILLS-McCANNA
metering and proportioning pumps
Also Manufacturers of Saunders Patent Diaphragm Valves
Force Feed Lubricators • Magnesium Alloy Sand Castings

If you write maker identify as IEN - 5647

Remove Lime Scale AND RUST FROM WATER-USING EQUIPMENT

A *Limex* Rectifier Will Avoid Costly Breakdowns

Pays for itself in a few months and continues to reduce operating expenses by removing accumulated lime scale and rust from water-using machines . . . and prevents it from re-forming. Eliminates costly breakdowns, replacement of parts, and down time. Inexpensive to install and operate.

FREE 30-DAY TRIAL At Our Expense

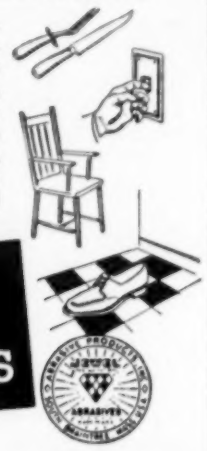
Used successfully in thousands of plants and scores of different industries all over the world. Write today for complete literature. Send a pint of your water for FREE ANALYSIS and recommendations without obligation.

THE *Limex* CORP.
911 MASSACHUSETTS AVE. · INDIANAPOLIS 6, INDIANA

If you write maker identify as IEN - 5648

Start by specifying Jewel Brand Coated Abrasives.

Whatever your finishing operation may involve — grinding, smoothing or polishing — there's a specific Jewel Brand Abrasive Belt designed and made to help you do the job better, faster, and at a lower cost. Let an experienced Jewel Brand Engineer help you select the *right* one — for metal, wood, leather, rubber or plastic. Write for complete details. Abrasive Products, Inc., 541 Pearl St., South Braintree 85, Mass.



Jewel Brand COATED Abrasives

If you write maker identify as IEN - 5649

Everyone Can Count on VEEDER-ROOT

Compact and rugged . . . this electrically operated reset counter is specially designed for tough jobs that demand longer counter life.

Here's another instance of the *infinite applicability* of Veeder-Root *Count*rol — electrical, mechanical or manual. And here's another instance, too, of the endless resourcefulness of Veeder-Root engineering, and the ability to design a *complete counting package* that fits the job fully and exactly. Now . . . what's *your* problem?

VEEDER-ROOT INCORPORATED
"The Name That Counts"
HARTFORD 2, CONNECTICUT
Chicago 6, Ill. • New York 19, N.Y. • Greenville, S.C.
Montreal 2, Canada • Dundee, Scotland
Offices and Agents in Principal Cities

If you write maker identify as IEN - 5651

VENTILATING . . Oscillating fan for man cooling duty, 18 to 36 inches

Source: ROBINSON VENTILATING CO.
1945 Harmony St., Zelienople, Pa.

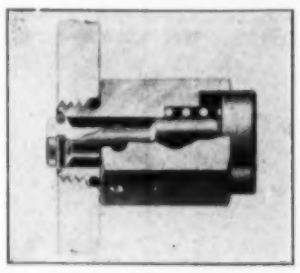
For floor or ceiling

Two motors, one to drive the impeller and the other for the 60-deg. oscillating motion, are employed on this new man cooling fan. The impeller motor rates 1 hp., operates at 1,200 rpm. The oscillating motor is a smaller geared head unit. Both are ball bearing design. The oscillating bearing is ball design also. The assembly is completed by a cylindrical housing and wire facings front and back. The rear facing has been removed in the illustration from the housing.

If you write maker identify as IEN - 5652

VALVE . . Push button design for air release, is O-ring sealed

Source: JAMES-POND-CLARK
2179-83 E. Foothill Blvd., Pasadena 8, Calif.



¾ inch bar stock

Spring backed button at the outer end of this new valve is pressed to unseat an O-ring and permit air to escape from an enclosure through side openings in the aluminum body. When the button is released the spring returns the valve to closed position. Assembly is by threading into a $\frac{5}{16}$-in. opening in the housing. A second O-ring, back of the threads, seals the connection.

If you write maker identify as IEN - 5653

CONNECTOR . . Duplex outlet with latching caps is weatherproof

Source: PASS & SEYMOUR INC.
552 Solvay Station, Syracuse 9, N. Y.

For outdoor use

Aluminum is employed in the plate and caps of this new Cat. 4527 duplex outlet. Cover and plate gaskets seal the outlets and prevent shorting. The caps latch in place in a push and turn action. The new unit can be installed in a single gang switch box or a flat face fitting. Contact rating is 15 amp. on 110-volt ac. or dc. The design meets Federal Specifications.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5654

NOW A NEW LINE OF Automatic Skylift Trucks AT NEW LOW PRICES

COMPARE THESE ADVANTAGES

FEATURE	BENEFIT
Only Automatic Skylifts have Silicone insulated motors	Max. protection against motor damage from overheating
Ball bearing mounted carriage and upright rollers	Friction-free lift, less wear —minimum current draw
Full magnetic control with plug-proof protection	Safety—lowest maintenance
Spur and Hypoid gear drive fully enclosed in oil bath	Maximum efficiency under all load conditions
Patented duolift rams with leakage return	Exclusive! Protects ram plunger from dirt, damage
Highest lift speed of any electric truck	Does more work—faster
Heavy section rolled manganese alloy steel uprights	Better wearing quality, proper flange strength
Hydraulic Safety Fuse	Locks load in position if line ruptures
Greatest accessibility for maintenance	Minimum down time, lowest maintenance costs

ONLY AUTOMATIC HAS THEM ALL

Automatic
LARGEST EXCLUSIVE BUILDER OF ELECTRICAL INDUSTRIAL TRUCKS

Before you buy any lift truck, get the complete money-saving facts on the amazing materials handling savings these new Automatic "Standard" Skylifts will bring to *your business!*
2000 lb. model, only $3575*
F.O.B. Chicago *Moselift Model PRICE IN U.S.A.

109 West 87th Street, Dept. E-3, Chicago 20, Illinois

If you write maker identify as IEN - 5655

NEW SQUARE D REVERSING DRUM SWITCH

WITH A LOT OF IMPORTANT FEATURES

Compact Size • Large Screw type Terminals • Replaceable Terminal Blocks • Convertible from Maintained Position to Spring Return • Positive Shock-proof Indexing • Single Captive Cover Screw • Generous Wiring Space • Two ½" Conduit Openings at Bottom • Front or Rear Handle Operation • Large and Legible Nameplate

Write for Bulletin 2601-A, Square D Company, 4041 N. Richards St., Milwaukee 12, Wis.

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

If you write maker identify as IEN - 5656

FOR THE TOUGH JOBS!

BIDDLE Shackle Bolts

BIDDLE Shackle Bolts *are* tough. They're made to take the load where hardened and ground bolts, drilled and tapped for grease fittings, are needed. Made from 1020 steel, BIDDLE Shackle Bolts are knurled under the head for locking, threaded and cotter drilled for SAE Castle Nuts, and drilled, tapped and threaded for standard grease fittings. They are carburized, hardened to Rockwell "C" 50-55 and are ground. BIDDLE Shackle Bolts are available in 66 sizes from 9/16th inch to 1¼ inch in diameter and from 3¼ inch to 8 inches in length. Special sizes to customer specifications. Small quantities available in stock sizes. If you are looking for a tough bolt for the tough jobs . . . BIDDLE Shackle Bolts fit your needs.

Write today for more complete information and specifications.

NATIONAL SCREW MACHINE PRODUCTS ASSOCIATION

BIDDLE SCREW PRODUCTS COMPANY
SHERIDAN, INDIANA

If you write maker identify as IEN - 5657

Cummins BALL•RITE 44

BALL•RITE construction is a combination of the finest specs in an industrial tool.
1. Ball bearings in the right places.
2. Always hardened gears.
3. Always Cummins double coil motor (the type always used in industrial drills.)
4. Always dynamically balanced armature for smooth, flowing power.

Equals $40 Industrial Quality Drills

Here is a $40 drill in everything but price. Has exclusive Cummins BALL•RITE specs . . . PERM-ALIGN gearing that can't accidentally be knocked out of line . . . super-powered motor that can't be stalled in metal up to ¼-in.; up to ½-in. in wood. *Buy BALL•RITE and buy right!* At your Industrial Supply or Hardware Dealer.

GET THE FACTS— Find out what BALL•RITE means to you. Send for Spec Sheet . . . I-53

Since 1887

Cummins-Chicago Corp.
DIVISIONS:
Cummins INDUSTRIALS • Cummins Portable Tools
4740 N. Ravenswood Ave. • Chicago 40, Illinois
IN CANADA: 934 Leslie Ave. Toronto

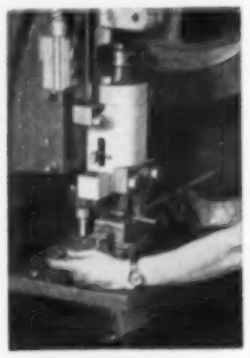
If you write maker identify as IEN - 5658

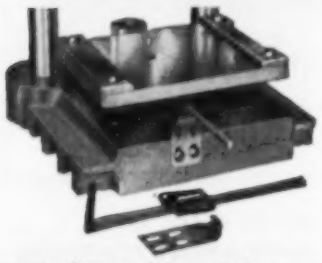
Adjustable Automatic Stock

FEED STOP for DIES

Dahlstrom Light Duty

AUTOSTOP





No drill jig...
No slotting...
No milling...

$1.75

Tested and improved through the years, the Dahlstrom Autostop will save hours of your high priced labor. Adjustable to work with blanking, progressive and compound dies. Mounts on stripper plate in 15 minutes. Handles sheet steel up to 1/16" x 6" or equivalent weight.

TO INSTALL: Just drill one 7/32 -inch hole, then drill and tap four mounting holes per directions. That's all there is to it!

Trial order $1.75 each; lots of 12 $1.50 each. State whether for use on compound or progressive dies. *Write for free pamphlet.*

By the makers of the DAHLSTROM TAP GUIDE

Branch MANUFACTURING COMPANY
NORTH BRANCH • MINNESOTA

If you write maker identify as IEN - 5659

4 1/2 MINUTES TO DRILL THIS HOLE 6" DEEP!

TILDEN ROTARY
KONKRETE KORE DRILLS
cut reinforcing rods in concrete!

Under the actual on-the-job conditions shown above, a Tilden 2½" diameter Rotary Konkrete Kore Drill cut through 6" of concrete—including crossed steel reinforcing rods—*in just 4½" minutes!* The straight, clean, ready-to-use holes permitted immediate running of 2" pipe. You consistently get 5 to 7 times more holes without resharpening with a Tilden Drill—and free factory sharpening is still available on sizes from 3/16" to 4" diameters. Tilden Drills can be used with ordinary electric or rotary air motors. Interchangeable shanks are available for any depth hole.

Find out about this revolutionary drill TODAY! Consult our Engineering Department without obligation, on your drilling problems.

Sold Through Distributors Everywhere

U. S. Patent No. Re. 23539

WRITE TODAY for free illustrated catalog. Please describe your drilling problem in detail.

TILDEN TOOL MANUFACTURING COMPANY
217 Los Molinos, San Clemente, Calif.

Gentlemen: Please send me without obligation, complete information on the Rotary Konkrete Kore Drill.

Name _____
Title _____
Company _____
Address _____

NEW LITERATURE—Continued

Identify as IEN - 0341

MOTOR CONTROL . . 125 data pages to bring your copy of the company's catalog up to date include information on the new ac. magnetic starter previously described IEN-3393-53. Cutler-Hammer Inc., 329 N. 12th St., Milwaukee 1, Wis.

Identify as IEN - 0342

ELECTRIC MOTORS . . How they and controls, packaged drives, dynamometers are used in the automotive industry is told in 36-page Bulletin B-5651. Westinghouse Electric Corp., 511 Wood St., Dept. IEN, Rm. 1110, Pittsburgh 30, Pa.

Identify as IEN - 0343

SPECIAL MOTORS . . Designed and built to order to meet requirements when standard motors won't do. Catalog 53-PD, 12 pages, presents examples of ac. motors, dc. motors, alternators, generators, MG sets, dynamotors, converters. Electric Specialty Co., 210 South St., Stamford, Conn.

Identify as IEN - 0344

PRODUCT PAINTING . . Picture summary on metal finishing equipment to clean, paint, dry. Examples give production figures. Catalog 200-QC, letterhead request, 16 pages. Cincinnati Cleaning & Finishing Machinery Co., 353 Schmidt Bldg., Cincinnati 2, Ohio

Identify as IEN - 0345

PACKAGING CONTAINERS . . Corrugated boxes in 12 standard types and styles, also 72 corrugated specialty boxes, illustrated with application notes in 32-page "How to Pack It" book to suggest possible ways of packing your product. Hinde & Dauch Paper Co., 337 Decatur St., Sandusky, Ohio.

Identify as IEN - 0346

PACKAGING MATERIAL . . Creped and cross-creped paper can stretch in all directions. Its use as packaging material, flexible air duct, upholstering, plastic laminant are in 16-page "Story of Two Knives." Cincinnati Industries Inc., 500 Station Ave., Cincinnati 15, Ohio

Identify as IEN - 0347

PLANT SAFETY . . 756 miniature reproductions of safety posters in new 72-page directory are arranged by general subject so you can select the ones that fit your program. "Occupational Safety Posters," 50 cents. National Safety Council, 423-27 N. Michigan Ave., Chicago 11, Ill.

Identify as IEN - 0348

PLASTIC MATERIALS . . Suggestions on how to use nylon parts in product design are given in new 16-page booklet, "Nylon Molding Powder," E. I. du Pont de Nemours & Co., Polychemicals Dept. D-12066, Wilmington 98, Delaware.

Identify as IEN - 0349

PLATING . . Automatic rack-type machines for plating and processing are illustrated in 8-page Bulletin 61. Frederic B. Stevens Inc., 18078-802 18th St., Detroit 16, Mich.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5661

BARRETT "5-HUNDRED" ELEVATOR

An inexpensive, all-purpose portable elevator for loads up to 500 lbs., 5 ft. or 7 ft. lift; 24-inch square platform handles boxes, crates, drums, dies, etc. For loading dock, racking and storage operations; as supporting table, high level repair platform and many other time- and money-saving uses. Easily raised and lowered by hand, loads safely held at any height. Other low priced standard models offer capacities of 1000 and 2000 lbs. Write for Bulletin 5131.

BARRETT-CRAVENS COMPANY
4641 S. Western Blvd., Chicago 9, Ill.

Representatives in All Principal Cities.

Canadian Licensee:
S. A. Armstrong Ltd., Toronto

BARRETT
One man does more than 3 or 4...with a Barrett

If you write maker identify as IEN - 5662

A-1035

EASTON

Furnace Cars

EASTON experience covers small and large capacity furnace cars for every requirement, including electric self-propelled cars for automatic continuous heat treating systems.

EASTON CAR & CONSTRUCTION CO. • EASTON, PA.
NEW YORK • PHILADELPHIA • PITTSBURGH

If you write maker identify as IEN - 5663

You can provide easy mobility to a variety of industrial products with

IRONBOUND ALL-PURPOSE HANDLING UNITS . . .

POPULAR IRONBOUND FLO TRUK

• An easy to handle ruggedly constructed unit for carrying bulky and heavy loads at lowest cost. Seven standard sizes with one or two push handles makes it easy to select the proper truck for your requirements. Ask an Ironbound engineer for suggestions.

The HANDY for furniture and similar items.

The HAULER for cases, crates, tote boxes, etc.

The HUSKY for general use throughout the plant.

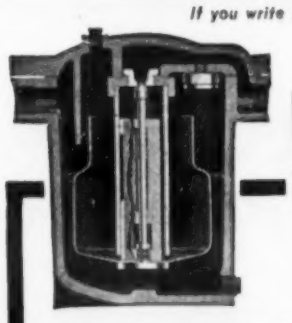
THE IRONBOUND "SAFETY-SKID" WITH ROUND CORNERS

Ironbound construction assures long hard use with complete safety to product and operator. Still the time proven method for handling of materials efficiently and economically.

IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
50 HOFFMAN PLACE • HILLSIDE, N. J.

MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS

If you write maker identify as IEN - 5664



ILLINOIS STEAM TRAP

Simple—has only two moving parts

Valve Stem Travels Independent of Bucket—no other trap has this feature.

Instantaneous Valve Action—either wide open or tight shut—will not dribble on partial closing of valve under slow condensation rates.

Wire Drawing Impossible—valve has snap action.

Simple—moving parts are valve and bucket.

Cannot Air Bind—vents air continuously without loss of steam.

Cannot Blow Steam—always water sealed.

Surface Discharge—flushes out all grease and sludge.

Valve Seat—of special alloy, fully guaranteed.

Inspection Easy—without disturbing piping.

Works Equally Well on All Fluids—compressed air lines, air separators, air aftercoolers.

Write for Bulletin 35

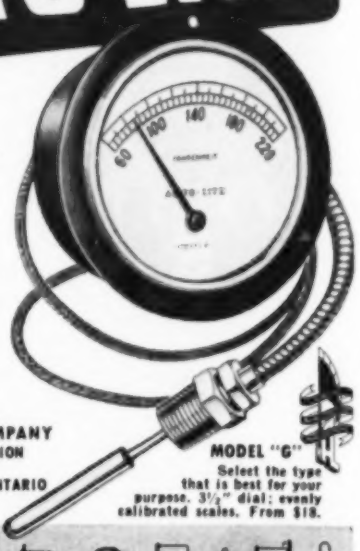
Consult us on your requirements

ILLINOIS ENGINEERING COMPANY
INCORPORATED 1900
RACINE AVENUE AT 21ST STREET • CHICAGO 8

If you write maker identify as IEN - 5665

for Eye-Level Readings . . .

AUTO-LITE



TEMPERATURE INDICATORS . . .

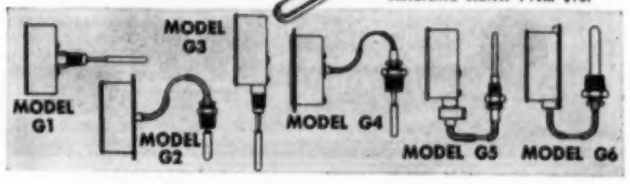
Precision-built indicators provide accurate temperature readings.

Low-cost protection . . . due to large, specialized production. Wide selection of dial ranges to meet specific requirements. Choice of stock types available as shown.

Send for new catalog, describing many thermometer styles.

THE ELECTRIC AUTO-LITE COMPANY
INSTRUMENT AND GAUGE DIVISION
TOLEDO 1, OHIO
NEW YORK • CHICAGO • SARNIA, ONTARIO

MODEL "G"
Select the type that is best for your purpose. 3½" dial; evenly calibrated scales. From $18.



If you write maker identify as IEN - 5666

Best way to

CUT TIRE COSTS

Get longer service with less trouble — specify the right tire for each specific job!

Goodyear never has to sell you a makeshift—because Goodyear builds a *complete* Industrial Tire line—each unit in it designed *expressly* to do its specific jobs superlatively well.

That's why you'll save money—year in, year out — specifying GOODYEAR in exactly the type tread and size that's best to meet *your* problems.

FREE
Technical Engineering Advice and Service

To help you solve your particular Industrial Tire problems, Goodyear maintains a staff of fully qualified technical experts. For their free recommendations, write:
Goodyear, Industrial Tire Sales, Akron 16, Ohio

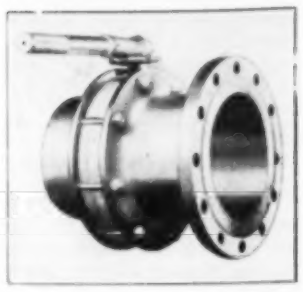
GOODYEAR
INDUSTRIAL TIRES

We think you'll like THE GOODYEAR TELEVISION PLAYHOUSE every other Sunday — NBC TV Network

If you write maker identify as IEN - 5668

VALVE . . Butterfly design for liquids, sludge or dry materials

Source: KEYSTONE TOOL CORP.
5323-27 Kirby Drive, Houston 5, Texas



Started in oil fields

Tight shut-off between the aluminum, bronze or steel disc and a resilient oil and acid-resistant seat characterize this new valve for services involving vacuum to 150-lb. pressure. The seat and disc assembly are secured between two flanges in the valve body so they can be removed without taking the valve from the line or disturbing the line connections.

Sizes range from 2 to 12 inches. The valve can be specified in any combination of threaded, flanged or welding end connections.

If you write maker identify as IEN - 5669

TRUCK . . Engine driven vehicle for utility use in large area plants

Source: HATFIELD ENGINEERING CO.
1302 N. Bristol St., Elkhart, Ind.

80 miles per gallon

Elkhart Jobster is a new three-wheel vehicle driven by a 2½-hp. engine for speed to 25 mph. It carries one rider and a trunk for transportation from one location to another. Controls center at the steering handles and at a lever on the side. There is no foot operation.

If you write maker identify as IEN - 5670

BEARING . . Miniature ball design is sealed against dirt and moisture

Source: LANDIS & GYR INC.
45 W. 45th St., Room 807, New York 36, N. Y.

Shown full size

Bore is 0.0591 in. and outside diameter is 0.1969 in. for this new size in the company's Filmoseal line, previously described IEN-2229-51. Eleven sizes are now available ranging to 0.8661 in. in diameter. The lubricant forms a film by capillary action between the tapered outer surface of the inner race and the edge of a precision closure secured in the outer race. It seals against entrance of dirt and prevents loss of lubricant. The bearing is Conrad design with deep groove inner and outer races and a ball retainer.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5671

For Safety's Sake . . .

DAV-SON

FLASHING SAFETY DIRECTOR

Easier to Read — Easier to Change

Flashing Dav-Son Safety Director for plant safety. Traffic light red, green spots flash "SAFETY FIRST." Color, motion, light compel attention. Only Dav-Son has *changeable letter* design with removable panel for frequent quick-change message. Say what you want when you want. 98 3½" red and 250 1⅞" black acetate letters in compartment box inc. Size 18½x29x6. 110-120 volts, AC-DC. **$39.75**

Insist on genuine self-sealing cork back bulletin boards with hardwood frames. Many sizes to choose from. With or without glass doors. Also with metal frames for inside or outside use.

Solve employee communication problems with DAV-SON bulletin boards. World's largest selection. 100 different styles and sizes. Write today for complete information.
Dealer Inquiries Invited.

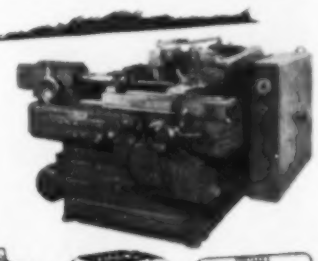
DAV-SON **A. C. DAVENPORT & SON, INC.,** Dept. IEN
311 N. DESPLAINES STREET • CHICAGO 6, ILLINOIS

INSIST ON DAV-SON—YOUR BEST BUY

If you write maker identify as IEN - 5672

automation means Greater Profit

AUTOMATION



Your machines plus Eagle Timers

TELL US YOUR PROBLEMS — WE'LL DO THE REST

A WIDE VARIETY OF TIMERS AND COUNTERS FOR YOUR SELECTION

EAGLE SIGNAL *Industrial Timers*
EAGLE SIGNAL CORPORATION MOLINE, ILL.

If you write maker identify as IEN - 5673

FOR THOSE *HARD-TO-GLUE* JOBS . . GET A PAISLEY Scientific GLUE!

STEP up your efficiency. Start in now, using Paisley "WOOD-GLU" No. 2145 . . a new fast-setting cold bonding liquid resin wood glue. It will do a quicker, easier, better job on a multitude of hard-to-glue combinations where clamp time must be held at a minimum. Paisley "WOOD-GLU" has been time-tested, proven satisfactory for use summer and winter. Household wares, furniture, cabinets, interior doors, frames, and industrial wood gluing and quick repair jobs are aided by this economically priced scientific liquid resin adhesive. Give it a trial in your own shop soon.

TRY PAISLEY "WOOD-GLU" No. 2145

Consider these advantages:

1. READY TO USE
2. FAST SETTING—SAVES CLAMPING TIME
3. EASY TO HANDLE
4. HIGH COLD BONDING STRENGTH
5. NO FOAMING—NO WASTE
6. CLEAN WHITE COLOR
7. WORKS AT ANY TEMPERATURE ABOVE FREEZING
8. LOW COST

MAIL COUPON NOW FOR GENEROUS TRIAL OFFER!

Gentlemen: Please send complete information about Paisley Wood Working Glues.

☐ You may send on approval trial 5 gal. shipment of "WOOD-GLU" No. 2145 at 55 gal. drum price.

☐ Send me a copy of Laboratory Report on "WOOD-GLU".

FIRM _____

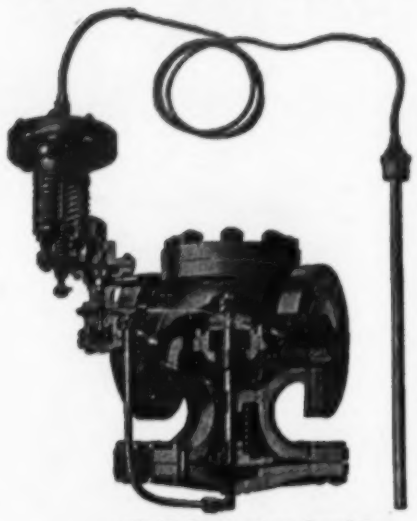
STREET _____ CITY _____

BUYER _____

PAISLEY PRODUCTS INCORPORATED
Manufacturers of Glues, Pastes, Resin Adhesives, Cements and Related Chemical Products
1770 CANALPORT AVE., CHICAGO 16, ILL. • PHONE CANAL 6-2219
630 W. 51st STREET, NEW YORK 19, N. Y. • PHONE COLUMBUS 5-2660

If you write maker identify as IEN - 5675

LOW COST
Temperature Control



Tops in performance for both storage and instantaneous heaters, this pilot-operated Spence regulator offers these important advantages:

SECO Metal Seats and Discs — 20 years experience has failed to produce a single case where SECO Metal has been cut by steam.

Packless Construction — minimizes friction . . . eliminates much time-consuming maintenance.

Large Metal Diaphragm—under usual conditions never requires replacement.

ET150 Temperature Regulator

New bulletin gives complete data on the entire line of Spence regulators. They are made in sizes from ¼" to 12" for service with air, steam, water, oil or gas. Write for your free copy of Bulletin 500 today.

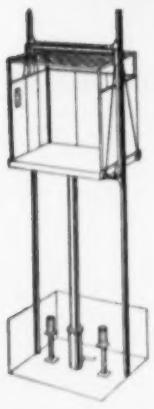
SE-106

Spence
SPENCE ENGINEERING COMPANY, INC.
WALDEN, NEW YORK

If you write maker identify as IEN - 5676

Rotary Oildraulic®
HEAVY-DUTY ELEVATORS

Most economical type for rises up to 50 feet



FEATURES:

- Modern hydraulic operation
- No costly, unsightly penthouse
- Smooth starts and stops
- ¼" accuracy on landings
- Low operating and upkeep expense
- Rugged car construction
- Engineered for power truck loading
- High efficiency power units
- New Oildraulic Controller
- Capacities up to 100,000 lbs.

Over 65,000 Oildraulic elevators and lifts are now in use . . . backed by Rotary's coast-to-coast organization.

MAIL NOW FOR NEW CATALOG
ROTARY LIFT CO., 1014 Kentucky, Memphis 2, Tenn.
Send catalog on Rotary Oildraulic Elevators to:
Name_____
Address_____

Rotary
OILDRAULIC ELEVATORS

NEW LITERATURE—Continued

Identify as IEN - 0350

PLASTIC MATERIALS . . Polyester resins for matched die molding, wet layup, casting, particularly in combination with glass fibers. Six types are described in 24-page Bulletin CEC-238 as to fabricating methods, suggestions on storing and use, catalysts, fillers, pigments. General Electric Co., 101 Plastics Ave., Pittsfield, Mass.

Identify as IEN - 0351

POLYETHYLENE PLASTIC . . Up-to-date information on properties, applications and fabricating methods. You may find an idea for your own product among the many design suggestions. Booklet J-545-C, 24 pages. Bakelite Corp., 30 E. 42nd St., Dept. 1502, New York 17, N. Y.

Identify as IEN - 0352

POLISHING . . Wheels, points, blocks, sticks, cones of rubberized abrasive provide a cushioned polishing action. Sizes and operating suggestions in 8-page Price List 53. Cratex Mfg. Co., 79-83 Natoma St., San Francisco 5, Calif.

Identify as IEN - 0353

PRESS TOOLS . . Hole punching units for mild steel to ¼ in. in thickness are used in multiple for a desired pattern. Setting them up on mounting templates is shown in 16-page Catalog CJ together with specifications. Wales-Strippit Corp., 361 Payne Ave., North Tonawanda, N. Y.

Identify as IEN - 0354

PRINTING . . Ozalid process of making copies from translucent original drawings or data is in first half of new 48-page booklet. Machines, materials, methods occupy the second half. Ozalid Div., General Aniline & Film Corp., 1641 Ansco Rd., Johnson City, N. Y.

Identify as IEN - 0355

PROCESSING . . Rigid polyvinyl-chloride plastic is fabricated into corrosion-resistant exhaust ducts, tanks, liners, other process equipment by a hot-gas welding method. Examples are given in 6-page Ampcoflex Bulletin 9-1. Atlas Mineral Products Co., 16 Ash St., Mertztown, Pa.

Identify as IEN - 0356

PULVERIZING . . Conical, cylindrical, rod, tube, and other types of grinding and pulverizing mills for process use are summarized in 6-page Bulletin AH-440. Hardinge Co., 238-42 Arch St., York, Pa.

Identify as IEN - 0357

CENTRIFUGAL PUMP . . Single-stage double-suction units from 1½ to 72 in. discharge, capacities to 225,000 gpm., heads to 900 ft. Bulletin 08-B-6146B, 24 pages. Allis-Chalmers Mfg. Co., 909 S. 70th St., Milwaukee 14, Wis.

Identify as IEN - 0358

SPEED REDUCERS . . Herringbone-gear units from ½ to 5,000 hp. in 130 sizes with reductions from 2:1 to 368:1 are described in new 60-page Catalog 40-C. D. O. James Gear Mfg. Co., 1126 W. Monroe St., Chicago 7, Ill.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5678

Shelf Adjustment is
60% faster
with Equipto Iron-Grip® Steel Shelving

Iron-Grip Steel Shelving permits instant adjustment of shelves on 1½" centers — entirely from front — without moving the unit. This enables user to quickly and easily adapt the shelving to changing storage needs. Each shelving unit is complete in itself . . . may be moved without disturbing remainder of assembly.

Equipto Iron-Grip Shelving is immediately available from stock in all sizes, either open or closed, with or without dividers, bin fronts, drawers, or label holders. See your Equipto distributor or write for free catalog.

Exclusive Stud eliminates nuts, bolts and tools

A slope in the keyhole joins with the taper on the stud to form the tightest and strongest of grips. An exclusive Equipto feature.

® Patent Pending

Equipto AURORA, ILLINOIS
Division of Aurora Equipment Co.
655 Prairie Avenue, Aurora, Illinois
Steel Shelving . . . Parts Bins . . . Drawer Units

If you write maker identify as IEN - 5679

WW® SEAM WELDING WHEELS

Seam welding wheels of any size are available in Weiger-Weed high strength, high conductivity alloys. To facilitate delivery, Weiger-Weed normally maintains a basic stock of many sizes of wheel blanks in finished form, or in rough form for user to finish machining. Generally, users find it more advantageous to order wheels completely finished.

We try to make wheel blanks available from stock for finishing to the following sizes:

Diameter:	7"	8"	8"	10"	10"	10"
Thickness:	3/8"	3/8"	1/2"	3/8"	1/2"	3/4"

Other sizes available on request.

WHEELS ARE SUPPLIED IN WW-1, WW-2, AND WW-3 ALLOYS — (R.W.M.A. CLASSES 1, 2 AND 3)

WW®

22802D

WEIGER-WEED
Weiger-Weed & Company, Division of Fansteel Metallurgical Corporation, 11644 Cloverdale Avenue, Detroit 4, Michigan

If you write maker identify as IEN - 5680

IF IT'S GEARING YOU'RE HEARING ..TRY CELORON

A Celoron gear is a silent gear. It eliminates metal-to-metal contact . . . builds silence into your products.

There is a difference in plastic gear stock. Celoron is a special canvas-based laminate made by C-D-F, sold in 39" x 46" sheets, with thicknesses up to 9". Celoron is easily cut into gears of high tooth strength, excellent impact strength and resiliency. These gears require little lubrication and are unaffected by high heat or moisture.

Write for Celoron specifications and gear cutting information. If you wish a sample, tell us about your application.

THE NAME TO REMEMBER...CELORON GEAR STOCK

Continental-Diamond Fibre Company
NEWARK 21, DELAWARE

If you write maker identify as IEN - 5681

REED TRADEMARK

SELF FEEDING RATCHET REAMER
Saves Time, Money and Effort

Spiral flutes with patented cutting edges cut burr cleanly, quickly and easily, with no pushing effort. Exclusive double-pawl ratchet reduces lost motion 50%. Capacity ¼" to 2".

Ask your Jobber or Write for descriptive circular

In a vise or pipe tool . . . if it's a REED, it's RIGHT

PIPE VISES AND STANDS — MACHINISTS VISES — THREADERS CUTTERS

REED MANUFACTURING COMPANY
ERIE, PENNSYLVANIA, U. S. A.

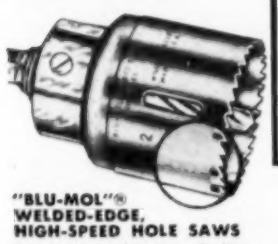
If you write maker identify as IEN - 5682

"BLU-MOL"® HIGH-SPEED POWER BLADE

The greatest all-purpose power hack saw blade ever developed. "Blu-Mol's" special steel and unique heat treatment are the secrets of spectacular cost cutting performance.

"JET-EDGE"® HIGH-SPEED, WELDED-EDGE POWER BLADE

The tougher the job, the greater the savings with this sensational new *unbreakable* blade. It's safer, longer-lasting — shatterproof under the most rugged cutting conditions.



"BLU-MOL"® WELDED-EDGE, HIGH-SPEED HOLE SAWS

Every day industry is finding new applications for these remarkable saws. Cut any machinable material. Sizes from 5/8" to 4 1/2". Follow-through type.

You get MORE CUTTING POWER

with Millers Falls . . . world's broadest and most highly developed line of metalcutting saws

Test Millers Falls saws yourself. See the results you get — in speed, accuracy, long life — compared with the saws you now use. Then you'll know what Millers Falls never-ending research for better designs, finer steels and more effective heat treating methods really mean in greater cutting power. In hundreds of plants where comparison tests have been run, Millers Falls saws are now standard. Write for full details — or let us arrange a demonstration.

MILLERS FALLS COMPANY, Dept. P
Greenfield, Mass.

MILLERS FALLS TOOLS SINCE 1868

The Mark of Superiority

BAND SAWS FOR EVERY MATERIAL AND EVERY JOB

Pre-welded to fit any machine — individually boxed for easy handling. Also available in coils of 100 ft. & up.

If you write maker identify as IEN - 5683

in INSTANT ICE MACHINES that spout up to 2 tons of flaked ice per 24-hour day WINSMITH speed reducers

Jetting a steady stream of dry-cold, hard ice flakes at the touch of a button is the kind of magic this Instant Ice Machine was made for. That's its job. Hospitals, restaurants, hotels, dairies, meat packers and super markets count on it. And well they may — for Liquid Freeze Corporation, manufacturer of Instant Ice Machines, has been extremely careful in the selection of sturdy, long-lived components for tough day-in, day-out performance.

Centered in the drive mechanism powering the stainless steel blades which flake the ice, is a Winsmith Speed Reducer, Worm Gear Model 3 1/2 B, with an input speed of 2150 rpm and an output speed of 59½ rpm. "Chosen for adaptability, sound engineering design and construction . . . we have found it rugged and dependable in every way," says Liquid Freeze Corporation.

Reasons such as these have led manufacturers to look to Winsmith when they are looking for speed reducers. With fully standardized differential, worm gear, helical gear and worm-helical units — the Winsmith line is the most complete within its range of 1/100 to 85 hp and 1.1:1 to 50,000:1 reduction ratios.

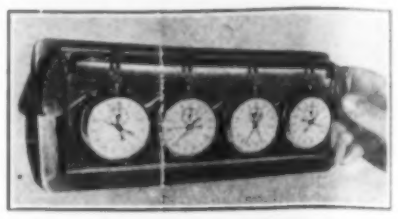
Request catalog 148 for details.

WINSMITH, INC.
10 Davis St.
SPRINGVILLE (Erie County), N. Y.

If you write maker identify as IEN - 5685

TIMING . . Multiple stop watch for use in vehicle acceleration tests

Source: TRACKTEST EQUIPMENT CO.
Box 499-A, Franklin 1, Mich.



Model 521 is shown

Tracktimer is a new assembly of three or four Gallet No. 499 stop watches on a chromium plated and steel housing. Overall dimensions are 10 by 4¼ by 1⅜ in. In the four-watch assembly shown in illustration.

A lever is provided to start all of the watches simultaneously at the beginning of a test run. The hands are then stopped separately at the end of each successive interval to obtain the time and compute the average rate of acceleration.

The watches are split hand design so two intervals are timed with each one. Speed-time curves can be obtained directly when the new timer is used with the company's Fifth Wheel speedometer, previously described IEN-1867-52.

If you write maker identify as IEN - 5686

DISPENSING . . Drain stand to finish emptying liquid from a drum

Source: WEST BEND EQUIPMENT CORP.
218-22 S. Water St., West Bend, Wis.

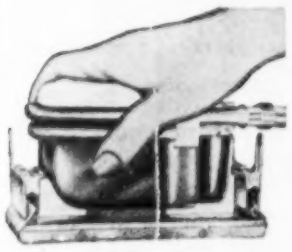
Scotchman's delight

The last few quarts of liquid can be drained out of a drum by placing it on the sloping deck of this new stand which is 3 in. lower at the front than it is at the rear. The remaining liquid drains down through a strainer into a container that forms part of the stand. This container is fitted with a faucet to dispense the recovered liquid. The stand is designed to take 55-gal. steel drums.

If you write maker identify as IEN - 5687

SANDING . . Portable pneumatic tool produces vibration-free reciprocation

Source: DETROIT SURFACING MACHINE CO.
1328 E. 8-Mile Road, Detroit 20, Mich.



Vane type motor

Model J-R is a new 4-lb. assembly in the company's Strate-Line sanding equipment, previously described IEN-581-52. Its pneumatic motor drives the sanding pad at 4,500 strokes per min. with 50 to 60 lb. pressure in the air line. The assembly includes a water spray for wet operation. Slide action, in application of the sanding pad, permits offset as much as 2 in. to either side to operate under projections and obstructions. List price is $69.50 for the new tool.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5688

with Veelos on your machines *v-belt adjustment is a production-saving job*

ALL V-BELTS STRETCH. With endless v-belts there's nothing you can do to take up this stretch once the motor has been "run-out". But with Veelos the adjustment is in the belt itself—even sliding motor bases are unnecessary.

Changing the length of each Veelos v-belt by just adding or removing links is the best, most efficient, way to keep the belts correctly matched. Using Veelos means that the job of adjustment is done easily and quickly... with the least amount of machine down-time.

VEELOS THE LINE V-BELT

Write for your copy of the Veelos Data Book—it gives file-worthy product and engineering facts which you should have handy. We'll be glad to send you a copy.

MANNHEIM MANUFACTURING AND BELTING CO.
651 Manbel Street, Manheim, Pa.

Adjustable to Any Length • Adaptable to Any Drive

If you write maker identify as IEN - 5689

See How OTHERS Cut Cost with MULTIPRESS

Facts and figures from hundreds of actual users tell *how* the smooth oil-hydraulic power and control of Multipress cuts production costs. Our Data Log reports on these applications may answer some of your own production needs.

Multipress offers fully adjustable *ram speed, pressure and stroke length.* Pressures build up as the ram contacts work . . . *no hammer-blow impact.* Automatic time delay, for ram dwell, and many other types of ram controls, auxiliary feeds, accessories and attachments can be provided with Multipress.

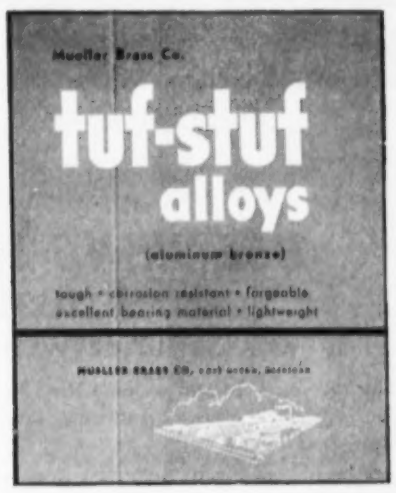
Let us send you DATA LOGS on types of operations your work requires!

The DENISON Engineering Company
1150 Dublin Road, Columbus 16, Ohio

MULTIPRESS

If you write maker identify as IEN - 5690

90-A



This new engineering manual of facts on MUELLER BRASS CO. TUF-STUFF® ALUMINUM BRONZE ALLOYS is ready.

Write for your copy today

MUELLER BRASS CO. • PORT HURON 26, MICH.

If you write maker identify as IEN - 5691

for the best in TEFLON* depend on JOHN CRANE

engineering leadership and facilities

**DuPont trade-mark for tetrafluoroethylene resin*

When you use John Crane Teflon products you get *all* the advantages of this remarkable material—because you get the finest in fabrication "know-how" and quality.

"John Crane" fabricates Teflon for countless applications, including rods, tubing, tape, sheets, gaskets, bellows, washers, insulators, electrical parts, valve discs, "C-V" Rings, braided packings, coverings for dough sheeting rolls and heat sealing jaws, and a wide variety of other forms. Our engineers are ready to work with and assist you in your particular needs or problems.

Let us know your requirements. Send for our 12-page illustrated catalog. Crane Packing Co., 1815 Cuyler Ave., Chicago 13, Illinois.

JOHN CRANE **CRANE PACKING COMPANY**

If you write maker identify as IEN - 5692

If you write maker identify as IEN - 5693

FAR LESS TIP BREAKAGE with "RING SEAT" CENTER DRILLS

USE "RING SEAT" CENTER DRILLS

IF YOU GRIND BETWEEN CENTERS

The "R" type, curved contour Ring Seat center drills give you a stable, accurate, precision center, quickly restored after heat-treat.

Ring Seat center drills produce a protected center at no extra cost—and carry a built-in discount because they last longer.

Lapping After Heat Treat

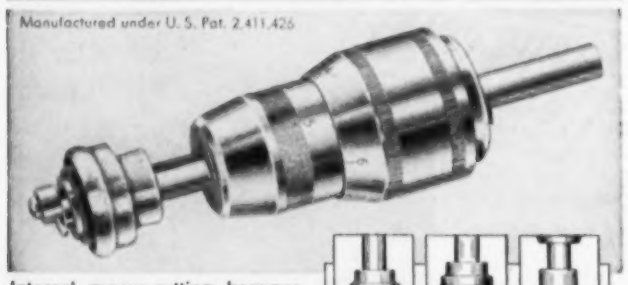
is a simple, quick operation since only about one-third the usual area needs clean-up. Lapping with a rotating felt wick removes heat scale and restores a perfect center — at the original place.

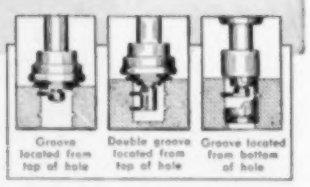
• A PREMIUM DRILL AT NO EXTRA COST •

LINK INDUSTRIES
13848 Elmira Detroit 27, Mich.
FREE CIRCULAR

If you write maker identify as IEN - 5694

Waldes Truarc Internal Grooving Tool
for precision cutting of internal grooves in bores and housings
FAST! ECONOMICAL! NEEDS NO SKILLED LABOR!





Internal groove-cutting becomes the simplest of operations with Waldes Truarc Internal Grooving Tool. Easy to adjust—easy to operate...readily adaptable to individual requirements.

Designed for use in any hand drill or automatic drill press and screw machine...assures a concentric recess without injury to metal. Operates by fingertip pressure—especially suitable for unskilled operators.

The Waldes Truarc Grooving Tool when used in an electric or pneumatic hand drill, can be taken to the job eliminating disassembly and excessive handling...resulting in all-around savings in time and costs!

Write now for descriptive brochure giving mechanical details, cutting sizes...extra features

WALDES TRUARC GROOVING TOOL
WALDES KOHINOOR, INC.
47-16 Austel Pl., Long Island City 1, N.Y.

NEW LITERATURE—Continued

Identify as IEN - 0359

SPEED REDUCERS . . Herringbone-gear drives in 39 sizes from .4 to 2,480 hp. and output speeds of 2.2 to 623 rpm. are covered by 36-page Book 2519. Link-Belt Co., 305-9 N. Michigan Ave., Chicago 1, Ill.

Identify as IEN - 0360

SPEED REDUCERS . . Eccentric sliding plungers engage teeth in a ring-shaped rack in the Heliocentric design of the company's speed reducer. This and helical reducers, ⅛ to 6,000 hp., are in 8-page Catalog Section 1-A. Universal Gear Corp., Martindale & 19th, Indianapolis 7, Ind.

Identify as IEN - 0361

RUBBER PARTS . . Molded and extruded from natural and synthetic rubber to specification. Twelve product examples in 8-page Bulletin IP-52 range from typewriter rolls to a radio shock mount. Tyer Rubber Co., Industrial Division, 353 Railroad St., Andover, Mass.

Identify as IEN - 0362

SHAFT SEAL . . Mechanical unit for pumps, autoclaves, is shown in 11 designs by 16-page Dura Seal Catalog 455. Sectional views and recommended uses are included. Durametallic Corp., 2106 Factory St., Kalamazoo, Mich.

Identify as IEN - 0363

SHEARING MACHINE . . Combination design to shear, punch, cope plate and structural shapes is available in three models with 35 to 125-ton punch capacity. Pictures in 12-page Bulletin 347 show what it will do. Kling Bros. Engineering Works, 4403 Kamerling Ave., Chicago 51, Ill.

Identify as IEN - 0364

V-BELT SHEAVES . . QD design consists of a hub and sheave with mating conical surfaces in an assembly that gives a positive wobble-free mounting on a shaft. Catalog Section S3, 12 pages, gives installation instructions, dimensions and weights. Fort Worth Steel & Machinery Co., P. O. Box 1038-A, Fort Worth 1, Texas

Identify as IEN - 0365

STORAGE SHELVING . . Standardized line of steel parts assembles without tools into open or closed shelving, bins, cabinets, racks. Bulletin, "6 Reasons Why," 4 pages. De Luxe Metal Furniture Co., 353 Carlin St., Warren, Pa.

Identify as IEN - 0366

STORAGE TANKS . . Fabric bag inflates or deflates to provide variable volume for vapors from a volatile liquid such as gasoline. The bag mounts as part of a steel tank to eliminate breathing losses. "Vapor-Mizer," 12 pages. Graver Tank & Mfg. Co., 4811 Tod Ave., East Chicago, Ind.

Identify as IEN - 0367

SWITCH . . Compact snap-action unit has bounceless action at speeds of 3,600 per minute. Operating principle and standard ratings in 6-page Bulletin 101. Sessions Clock Co., Tyniswitch Div., 50 Horton St., Forestville, Conn.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5695

SEND FOR YOUR FREE COPY

NEW ACME BUSHING CATALOG

Contains America's LARGEST BUSHING Selection

Features 2 Standards
A.S.A. Standard Plus Acme Standard

Makes Bushing Procurement Easy... Fast! Send For Your FREE Copy Now!

Simplifies, speeds bushing selection. Packed with valuable data. Saves you time and trouble. Also includes liners, leader pins, dowel pins, locating jigs, etc.

Serving Industry For 28 Years

ACME INDUSTRIAL COMPANY
215 N. Laflin St., Chicago 7, Illinois

MANUFACTURERS OF DRILL JIG AND FIXTURE BUSHINGS

If you write maker identify as IEN - 5696

NEW SKINNER SOLENOID VALVE

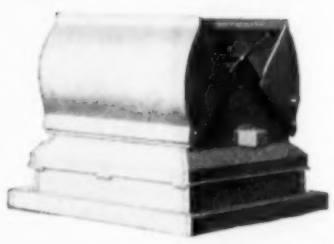
EXPLOSION PROOF TYPE X5

THE new Skinner X5 Solenoid Valve is basically the same as the widely accepted and tested V5, but modified to a construction that is Underwriters' approved for Class I, Group D hazardous locations. Small size and lightweight features are retained, and the X5 is low in price because of the many parts which are interchangeable with other Skinner valves. Rating is 10 watts max.; soft, spring loaded seals prevent leakage; internal parts are stainless steel; wide variety of port locations in ⅛" and ¼" size; most types available for metering; for AC or DC in a wide range of voltages and frequencies; can be mounted in any position; supplied as two-way normally open or closed, three-way normally open, closed or directional flow. *Write today for details!*

SKINNER ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
110 Edgewood Ave., New Britain, Conn.

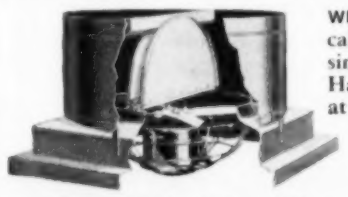
If you write maker identify as IEN - 5697

Swartwout "Straight Through" Ventilators provide efficient economical spot ventilation



For situations where fast powerful exhaust is desired, the *straight-through* type roof ventilator throws out unwanted elements in a hurry.

JECT-O-VALVE is completely enclosed when not in operation, and a solenoid-actuated lock holds top sections secure when closed. Made in 5 sizes, 28 capacities. Write for Bulletin J-B.



WHIRLOUT provides economical, effective ventilation with simple, sturdy construction. Half-disc dampers are pivoted at the center of its circular opening. 10 sizes, wide capacity selection. Write for Bulletin WH-B.

See our catalog in Sweet's Engineering or Architectural Files

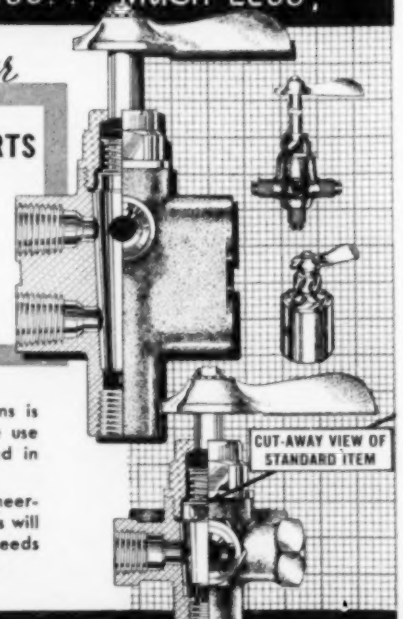
18511 Euclid Avenue, Cleveland 12, Ohio
The Swartwout Co.
Roof Ventilators and Ventilating Louvers
POWER PLANT EQUIPMENT • PROCESS INDUSTRY CONTROLS

If you write maker identify as IEN - 5698

Special Designs by ANDERSON BRASS COMPANY COST LESS . . . MUCH LESS!

We adapt our

STANDARD PARTS
Handle Assembly
Stem
Packing Nut
Packings (2)
Spring



The cost of special designs is kept to a minimum by the use of our standard parts used in Kantleak Products.

Our experience in engineering and production methods will enable you to obtain your needs at the lowest possible cost.

Anderson Brass Company

If you write maker identify as **IEN - 5699**

HINGED PLATEGRIP
BELT FASTENER No. 500

For Heavy Conveyor Belts of Changing Length

These heavy-duty belt fasteners make a strong, flexible joint in conveyor belts, belts of any width and of from 3/16" to 1/2" thickness. They offer special advantages in mines, quarries or industrial setups where length or position of belt is frequently changed, because sections can be removed or added at will. Joints are opened for this purpose by simply pulling out the hinge pin.

Easily and quickly applied on the job or in the shop. Special design gives deep compression into belting and smooth, flush joint.

Write for circular

ARMSTRONG-BRAY & CO.
5180 NORTHWEST HIGHWAY CHICAGO 30

If you write maker identify as **IEN - 5700**

THERE'S A STURDY
BURKE
FOR EVERY PURPOSE

Thousands of efficient, low cost Burke Bench Millers are proving their superiority in Tool, Development and School Shops and a wide variety of mass production operations.

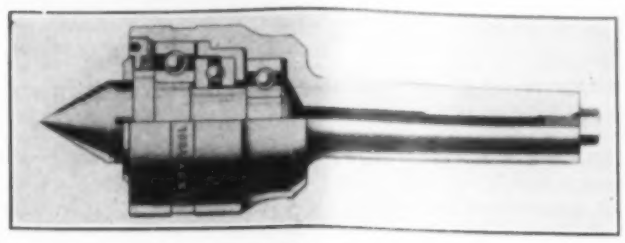
Send for complete data on models attachments, accessories and suggestions for putting Burke's to work for your profit.

THE U. S.-BURKE MACHINE TOOL DIV.
Brotherton Road 5, Cincinnati 27, Ohio

If you write maker identify as **IEN - 5702**

CENTER . . Ball bearing design particularly for metal spinning work

Source: READY TOOL CO.
554 Iranistan Ave., Bridgeport 5, Conn.



Available to order

A ball thrust bearing is located between two ball radial bearings in the assembly of this new machine center. The design is suited for heavy thrust loads while operating at speeds to 10,000 rpm. The unit is available to specification.

The housing is one-piece construction with space to hold special bearing oil. The spindle is locked in the bearing assembly. The point is made of high speed steel and is ground after the bearing has been assembled.

If you write maker identify as **IEN - 5703**

ADHESIVE . . Liquid resin and catalyst for non-porous materials

Source: BORDEN CO.
350 Madison Ave., Room 430, New York 17, N. Y.

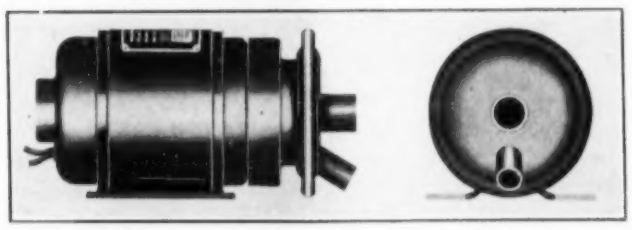
Test kit lists at $1.50

Epiphen XR-823 is a new transparent liquid resin for application with a catalyst. It bonds metal, glass, natural and synthetic rubber, ceramic materials, wood, glass fiber laminates to themselves or in various combinations. The cured bond is resistant to attack by boiling water, acids, alkalis and most organic solvents.

If you write maker identify as **IEN - 5704**

PUMP . . Miniature centrifugal, rates to 6 gpm. and to 6 foot head

Source: PIONEER PUMP DIVISION
19655-59 John R St., Detroit 3, Mich.



For fountains, drink dispensers, water coolers

Model MU is a new assembly of motor and centrifugal pump for liquid circulating service in laboratory work and on equipment requiring comparatively small capacity. The pump can be supplied in a range of materials including brass, Monel Metal, stainless steel. The assembly measures about 5 in. in diameter by 9 in. in overall length. It weighs 5 pounds. The inlet is 7/8-in. and the outlet 5/8-in. pipe.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 5705**

NO DETOURS

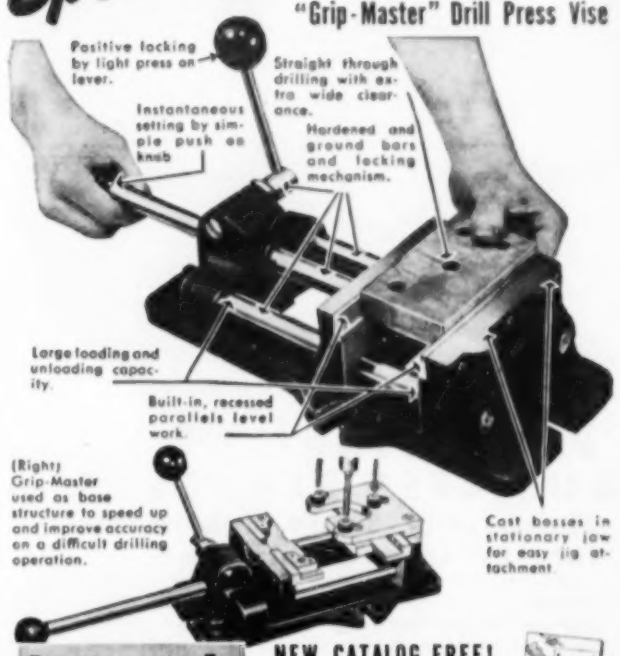
This overhead handling "Freeway"* avoids most ground traffic problems. Thirty-six Robbins & Myers 4,000 lb. capacity "F" hoists handle steel parts and finished products, serve on assembly as well as transport work throughout this steel fabricating plant. Need this kind of efficiency in your plant? Write today for Bulletin 801-C.

**Materials handling on a separate overhead level.*

TAKE IT UP WITH
ROBBINS & MYERS INC
MOTORS HOISTS CRANES FANS MOYNO PUMPS
HOIST AND CRANE DIVISION, SPRINGFIELD 99, OHIO

If you write maker identify as **IEN - 5706**

Speed-up OPERATIONS with heinrich
"Grip-Master" Drill Press Vise

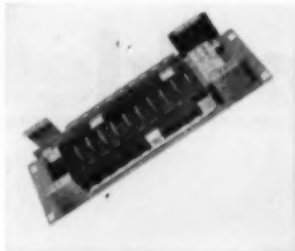


heinrich TOOLS INC.
SUCCESSOR NATIONAL MACHINE TOOL CO.

NEW CATALOG FREE!
Be sure you have a complete Heinrich Tool Catalog in your files. Your copy will be sent free upon request.

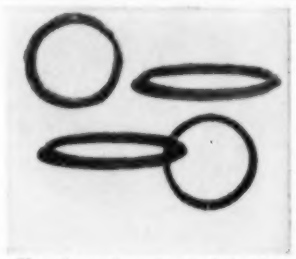
DEPT. 173-E • RACINE, WIS.
Drill Press Vises • Fixture Locks • Nibblers
Punches • Rod Cutters

If you write maker identify as **IEN - 5707**



Putting insulation around delicate copper conductors on this panel board was achieved with plastisols made from VINYLITE Dispersion Resins. They flowed safely into place after board was assembled. Baking fused them into a firm material with excellent electrical properties. It keeps conductors 10 per cent cooler than air does. By Trumbull Electric Dept., General Electric Co., Plainville, Conn.

Tools can be cushioned by dip-coating their handles or molding VINYLITE Dispersion Resin Plastisols to their jaws to help in holding wire. The plastisols hold fast to metal, withstand rough handling, abrasion, twisting and squeezing. Resilient, they give a better grip. Surfaces won't crack or peel. They resist oil, grease, chemicals, water. By Utica Drop Forge & Tool Corp., Utica, N. Y.



Sleevings for electrical insulation are glass fiber coated with plastisols made from VINYLITE Dispersion Resins. They stay flexible down to −65 deg. C., withstand continuous operation at 140 deg. C. They can be flexed, bent, twisted—without impairing dielectric value or rupturing. They are self-extinguishing, and resistant to moisture. By Suflex Corp., Woodside 77, N.Y.

can your product be improved in this same way?

Each product shown here had a problem in design or production—until VINYLITE Dispersion Resins were used.

Each required a particular combination of properties—which VINYLITE Dispersion Resins supplied.

Plastisols made from VINYLITE Dispersion Resins, being fluid, are easily formed, quickly applied, rapidly cured to their finished state. They serve equally well for molding or dip-coating. They can be given a range of brilliant colors—surfaces that are glossy or soft-textured. They stay resilient, pliable, and tough—resist water, weather, acid and alkali solutions, greases and oils. They have good electrical properties.

These features add up to long wear and a wide variety of uses. They're the same qualities that fit VINYLITE Resins and Plastics for scores of applications in defense and industry. For further information write Dept. PK-3.

Data courtesy of Stanley Chemical Co., East Berlin, Conn.

Vinylite BRAND **RESINS**

BAKELITE COMPANY
A Division of
Union Carbide and Carbon Corp.
30 East 42nd St., New York 17, N. Y.

If you write maker identify as IEN - 5709

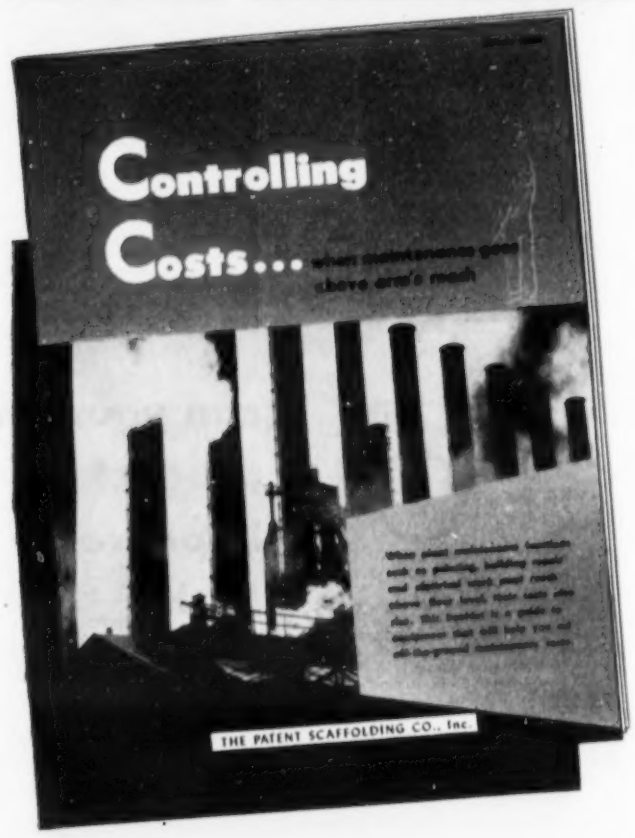
STURTEVANT
DUSTLESS BLENDERS
Thoroughly Blend Substances into an Inseparable Mass

The 4-Way Mixing Action of the Sturtevant Dustless Blenders thoroughly mixes two or more substances into an inseparable whole . . . every part of which is the same analysis. Single receiving and discharging opening insures tight sealing during mixing process. "Open-door" accessibility permits thorough cleaning. The fast, accurate mixing operation increases output . . . cuts mixing costs. Mixing capacities from ¼ ton to 75 tons per hour. Write.

STURTEVANT MILL COMPANY
113 CLAYTON STREET • BOSTON 22, MASS.

If you write maker identify as IEN - 5710

Free Booklet



how to save money in maintenance . . .

Send for this complete guide to the right scaffolds and ladders for cleaning, painting, electrical work, plant and equipment maintenance, etc. It lists types of jobs and tells you which equipment is best for each. It's packed with pictures and ideas on how to cut your off-the-ground maintenance costs and increase safety. Years of scaffolding know-how condensed for you . . . and it's yours without cost.

Patent Scaffolding — gives you the right scaffold or ladder for every job . . . and everything from one source!

BRANCHES IN ALL PRINCIPAL CITIES

for Greater Safety . . . Efficiency . . . Economy
THE PATENT SCAFFOLDING CO., Inc.
38-21 12th Street, Dept. IEN, Long Island City 1, N.Y.

Please send me my free copy of Bulletin G-205.

Name_____
Position_____
Company_____
Address_____
City_____ Zone____ State_____

NEW LITERATURE — Continued

Identify as IEN - 0368

TEST INSTRUMENTS . . Mass spectrometers to detect leaks, analyze plant products, determine isotope ratios. Types and accessories in 12-page General Catalog. Consolidated Eng. Corp., 302 N. Sierra Madre Villa, Pasadena 15, Calif.

Identify as IEN - 0369

HARDNESS TESTING . . Portable instrument reads direct in Rockwell scales, using standard penetrators and loads. You can take it to the work or bring the work to it. "Hardness Testers" catalog, 20 pages, shows how. Ames Precision Machine Works, 129-33 Lexington, Waltham 54, Mass.

Identify as IEN - 0370

PAINT TESTING . . Instruments for measuring viscosity, drying time, abrasion resistance, gloss, reflectance, film thickness. 1953 Catalog, 48 pages. Henry A. Gardner Laboratory Inc., 4725 Elm St., Bethesda 14, Md.

Identify as IEN - 0371

TESTING MACHINES . . Universal machines, 10 to 100 lb. in four models for one design, 250 to 10,000 lb. in seven models for another. Bulletin LR-2 and Bulletins 2, 6 pages each, new but with Sept. 1952 copyright. W. C. Dillon & Co., 14620-K Keswick St., Van Nuys, Calif.

Identify as IEN - 0372

BRONZE VALVES . . Angle, gate, globe and swing check in 44 styles with threaded, solder, flared-tube connections. Sizes and list prices in 24-page Catalog NVC-1. Northern Indiana Brass Co., 933-37 Plum St., Elkhart, Ind.

Identify as IEN - 0373

CONTROL VALVE . . Combined throttle and engine stop valve to shut down a turbine, compressor or engine in event of overspeeding. Cut-away view, operating sequence and sizes in 6-page Bulletin S-3. Golden-Anderson Valve Specialty Co., 2079 Keenan Bldg., Pittsburgh 22, Pa.

Identify as IEN - 0374

REGULATING VALVES . . How to select a pressure regulator, temperature regulator or pump governor is described in 36-page bulletin available on letterhead request. Installation conditions are stressed, data tables given. Foster Engineering Co., 833-37 Lehigh Ave., Union, N. J.

Identify as IEN - 0375

REGULATING VALVES . . Self-contained pressure and temperature-regulating units, also diaphragm valves, float valves, safety valves, strainers, thermometers, water gages. Sizes, ratings and list prices in 64-page Catalog 53. O. C. Keckley Co., 402 W. Madison St., Chicago 6, Ill.

Identify as IEN - 0376

SOLENOID VALVES . . 80 pages of technical information including nomograph flow charts, sizes and ratings, list prices. A two-page selector chart is featured. Catalog 24. Automatic Switch Co., 379-D Lakeside Ave., Orange, N. J.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5712

POLYKEN TAPE
cuts water damage claims more than 50%

In six months Carolina Freight Carriers Corp., Cherryville, N. C., cut water damage claims more than 50%. The method: sealing trailer doors with Polyken Tape No. 215.

After a lot of experimenting, this company is convinced that there isn't a tape in the field that will do this job as well as Polyken Tape No. 215. This is a strong, inexpensive and weatherproof cloth tape. Excellent tack makes this tape easy to apply; and superior adhesion makes it hold in spite of vibration, wind, rain and snow. No wonder the men at Carolina say Polyken Tape No. 215 has "*all* the necessary qualities incorporated in one tape."

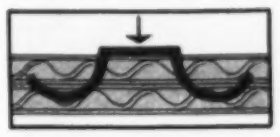
This is a typical example of the way Polyken Tapes can cut costs for you. Write for free samples and complete information. Polyken, Dept. IEE, 222 West Adams Street, Chicago 6, Ill.

Polyken®
INDUSTRIAL TAPES
Department of Bauer & Black · Division of The Kendall Company

If you write maker identify as IEN - 5713

LOOK! A SELF-CLINCHER!

No blade to insert!
Staple spreads itself under or inside the work!



Bostitch T5 Tacker → with outward clinch

Use it for stapling insulation around pipes and ducts . . . fastening shipping tags to corrugated containers . . . any job that calls for a blind clinch. By lightly pressing the handle you automatically drive a staple and turn its legs outward to clinch under or inside the work. Two models for light and medium staples. Call the Bostitch economy man in your area.

BOSTITCH
fastens it better AND FASTER with wire

For more information about the Bostitch T5 Tacker with outward clinch, write BOSTITCH, 645 Mechanic St., Westerly, R. I.

If you write maker identify as IEN - 5714

Cuts the cost of heavy-duty ventilation!

NEW R&M
Direct-Drive INDUSTRIAL FAN

You get extra cooling and ventilating power per dollar with this new fan! Its rigid construction puts it in a heavy-duty propeller-fan class, yet prices start as low as $160.00 (24" size)! New "gull-wing" blades, combined with an improved air inlet, set new highs in efficiency. Installation is easy, maintenance costs low. Whatever your ventilation problem—industrial, commercial or military—it will pay you to circle the enclosed inquiry slip now!

- Direct Drive reduces maintenance costs
- "Gull-Wing" airfoil blades for uniform pressure and added strength
- Square steel frame forms easy-mounting panel
- Aluminum alloy blades—non-rusting, non-crystallizing, non-overloading
- Heavy-continuous-duty motor. Ball bearings permanently lubricated and sealed (Information on explosion-proof motors available on request)
- Automatic shutters to fit all fan sizes
- Streamlined air inlet for greater efficiency

SEND THE INQUIRY SLIP TODAY!

ROBBINS & MYERS FANS for 1953

Robbins & Myers, Inc., Fan Division
387 So. Front St., Memphis 2, Tenn. IN-53

If you write maker identify as IEN-5716

Norgren MICRO-FOG LUBRICATORS

RELY ON

ACE PRECISION NYLON BALLS FOR EXACT CONTROL

SIZES 1/8"–3/4"
TOLERANCES ±.001

C. A. Norgren Co., Denver, Colorado, uses Ace Nylon Balls as feed tube checks in Micro-Fog Lubricators to provide instant oil flow.

Ace Nylon Balls of Du Pont Nylon FM #10001 are mass produced to close tolerances giving you the advantages of toughness at low temperatures, form stability at high temperatures, light weight, chemical and abrasion resistance.

Request samples and bulletin TODAY!

Hundreds of Industrial Applications! Let our engineers advise you.

ACE PLASTIC COMPANY
Precision Plastic Fabricators
91-24 Van Wyck Expressway • Jamaica 2, N. Y.

If you write maker identify as IEN-5717

AERO-SEAL WORM-DRIVE HOSE CLAMPS WON'T SHAKE LOOSE!

Wherever you have to clamp a hose connection tight . . . or wherever you want to lock two objects of any shape together in an unshakeable bond . . . your best bet is AERO-SEAL.

Threads of steel worm engage deep into slots in stainless steel band—hold tight under extreme vibration in automotive, aircraft and industrial applications. CAN'T SHAKE LOOSE.

One-Hand Installation
Install an Aero-Seal any place you can reach with thumb and one finger. Self-feeding when band engages worm threads. Thumb-grip and screwdriver types.

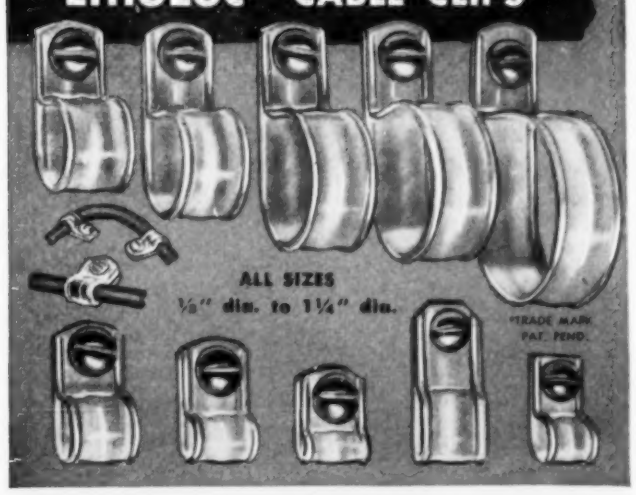
Re-use Again and Again
When hose is worn you RE-USE the same Aero-Seal again and again. RE-USE Aero-Seals on temporary clamping jobs—they conform to any shape without damaging band.

Use of Stainless Steel Subject to Government Regulations

"Aero-Seal"® WORM DRIVE HOSE CLAMPS
ANOTHER BREEZE MARK PRODUCT
BREEZE CORPORATIONS, INC.
41 South Sixth St. Newark, N. J.

If you write maker identify as IEN-5718

NO SHORT CIRCUITS when you use EthoLoc* CABLE CLIPS



Made of TOUGH, DURABLE ETHYL CELLULOSE PLASTIC—FLEXIBLE, EASY TO INSTALL

Write for Sample and Full Information, including Strength Tests and Prices

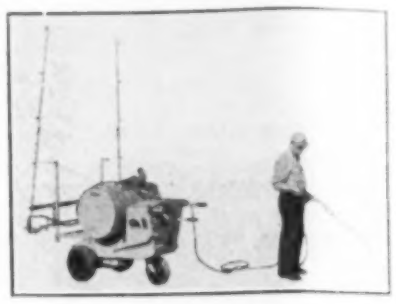
ALSO MFRS. OF ALL NYLON CABLE CLIPS

WECKESSER COMPANY
5261 N. Avondale Ave. • Chicago 30, Ill. • Dept. L

If you write maker identify as IEN-5719

TRUCK . . Spraying attachment for decontamination, grounds keeping

Source: PRIME-MOVER CO.
52 Sampson St., Muscatine, Iowa



Latches in place

New attachment for the company's three wheel engine driven truck, previously described IEN-9679-51, includes a liquid container, pressurizing equipment driven by power take-off from the truck's engine, a double boom assembly of spray heads to hinge outward over a considerable area, and a hand hose and nozzle for utility use. The equipment is interchangeable with the 10 cu. ft. dump bucket, flat bed or snowplow, also available as attachments.

If you write maker identify as IEN-5720

EXTRUDING . . Press and equipment for specified plastic extrusions

Source: F. J. STOKES MACHINE CO.
5956 Tabor Road, Philadelphia 20, Pa.

Illustrated data in Bulletin 550

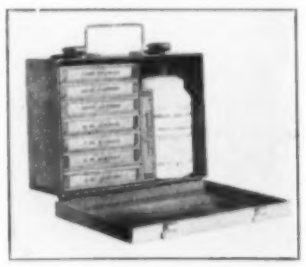
A new model of the Stokes-Windsor RC-100 extruder is now available, with the required tools and equipment, to make products such as plastic shoe welting, tubes, tapes, belting, channels, moldings and sheet. The new machine has somewhat over 100 lb. capacity per hour, depending on the material being handled. It employs the previously developed twin screw construction. The screws operate at speeds between 6 and 18 rpm.

Water cooled oil is fed to the thrust washers on each screw and to the gears and other moving parts. A new flange barrel mounting takes the place of previous tie rods to simplify cleaning and disassembly. Hinged adapter plates minimize set-up and take-down time.

If you write maker identify as IEN-5721

FIRST AID . . Burn kit includes Americaine spray dispenser

Source: DAVIS EMERGENCY EQUIPMENT CO.
58 Halleck St., Newark 4, N. J.



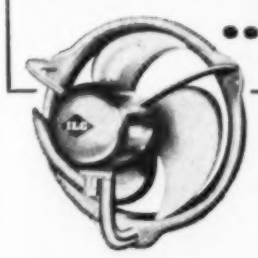
To deaden pain

Model 492, listing at $30, and Model 495, a smaller size listing at about $11, are two new kits assembled in steel carrying cases to treat industrial burns. Each kit is equipped with an Aerosol spray dispenser containing Americaine in the form of a greaseless water soluble ointment. Pain is killed almost instantly following application. An assortment of bandages and compresses completes each kit.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-5722

ILG Fans and Ventilators ...via Graybar



Send for—
NEW INDUSTRIAL VENTILATION GUIDE
—it's free!

Graybar offers this helpful ILG book as a guide to making your plant a healthier, more pleasant place to work. It simplifies the job of specifying ventilating equipment by providing complete air change tables, illustrations of typical installations, and a catalog section giving data and specifications on ILG fans and ventilators.

The patented, ILG-built self-cooled motor assures long life and uninterrupted service. You get the low-operating cost of an open-type motor while still retaining the protective features of a fully-enclosed unit. Cooled by fresh outside air, the ILG motor won't gum up . . . saves you 5% to 10% on power costs.

You'll want to investigate the line of ILG-built fans and ventilators. There's a size and type to meet your particular ventilating requirements—propeller fans, centrifugal fans, ventilators, blowers, unit heaters—all available via Graybar.

Check with your near-by Graybar Representative for the full story. *Graybar Electric Company, Inc. Executive Offices: Graybar Building, 420 Lexington Avenue, New York 17, N. Y.*

Call Graybar *first* for . . . Everything Electrical — Graybar Electric Company

343-125

If you write maker identify as IEN-5723

60-DAY FREE TRIAL of America's most popular industrial stool

A tired worker costs MUCH more than a good chair

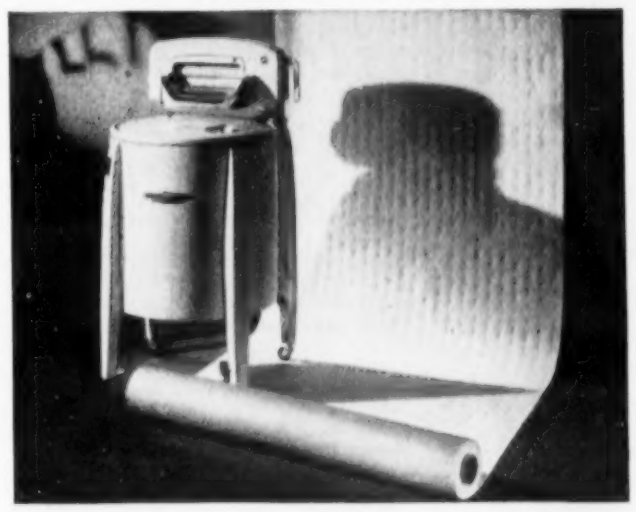
- 4-way adjustable backrest
- Scroll shaped posture seat
- Tamper-proof tubular all-welded construction
- 3 adjustable height ranges.

Now test Royal's famous No. 515 stool in your own plant without cost or obligation. See why the country's top firms choose it for superior versatility and durability. Write for free trial stool today!

metal furniture since '97 Royal

ROYAL METAL MANUFACTURING CO.
175 North Michigan Avenue, Dept. 205, Chicago 1

If you write maker identify as IEN-5724



Custom Protection

prevents shipping damage as no other packaging method known!

How often do *your* products arrive at their destination scratched, cut or damaged in any way? Once a year—once a month—or oftener? If you had a single instance of damage in transit last year, it may be time to change to *custom protection* with Kimberly-Clark Interior Packaging—KIMPAK*. Companies like the Speed-Queen Corporation who revised and streamlined their packaging operations have found that nothing else protects so efficiently, so economically.

KIMPAK is soft, grit-free, easy to apply as wrapping paper. It will absorb up to 16 times its own weight in moisture within 30 seconds—protect against shock, scratching, press-marking, vibration. KIMPAK is feather-light, yet gives more protection than most materials of far greater weight and density. Many concerns have found this an important factor in reducing the size and weight of their packages, to offset recent postal rate increases.

Regardless of the product you manufacture, KIMPAK—in its many specifications—can be "tailored" to fit your particular needs. Today—investigate *custom protection* with KIMPAK. For complete information, write to **Dept. P-53,** Kimberly-Clark Corp., Neenah, Wis.

KIMPAK INTERIOR PACKAGING — A Product of Kimberly-Clark

*T. M. REG. U. S. PAT. OFF. & FOREIGN COUNTRIES

If you write maker identify as IEN - 5726

JOHNSON BAND SAWS

SPECIFICATIONS—MODEL B

Capacity—5" rounds, 10" flats.
Height Overall—(Closed)—32".
Blade Length—7'5" x ½" x 23 ga.
Floor Space—46" x 28".
Weight—(Uncrated) 235 lbs. Crated 280 lbs. Boxed for Export 400 lbs.
Wheel Diameters—10"
Motor—½ H.P. any voltage available.
Speeds—45, 90 and 150 ft. per min.
Casters—Optional at slight extra cost.

MODEL J, 10" X 18" CAPACITY ALSO AVAILABLE
WRITE FOR DETAILS

JOHNSON MANUFACTURING CORP.
ALBION, MICHIGAN

If you write maker identify as IEN - 5727

Worth a Second Look

Since '26 JOY electrical plugs and receptacles have been Industry's outstanding value for portable power transmission. Molded as trim, one-piece (Neoprene/rubber) units they can't crack or shatter . . . won't lose their shape and are amazingly resistant to falls, blows, acids, oils, moisture or sunlight. Thousands of styles and shapes ranging from "cartridge-size" models to mammoth round (S.P.B.) units used in marine and mining applications have been developed. NO question about it . . . the JOY electrical connector line deserves a "second look". Ask for your free copy of Bulletin MC108

M.E. 651.1

ILLUSTRATION SHOWS JOY ROUND STYLE PORTABLE PLUGS

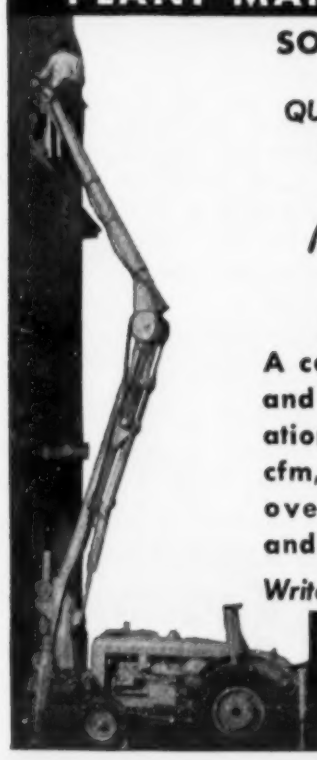
Polarized MALE PLUG
Polarized FEMALE PLUG

OVER 100 YEARS OF ENGINEERING LEADERSHIP

JOY MANUFACTURING COMPANY
HENRY W. OLIVER BUILDING, PITTSBURGH 22, PENNSYLVANIA
IN CANADA: JOY MANUFACTURING COMPANY (CANADA) LTD., GALT, ONTARIO

If you write maker identify as IEN - 5728

SKYWORKER FOR PLANT MAINTENANCE



SOLVE OVERHEAD PROBLEMS QUICKLY, EASILY AND SAFELY with the SCHRAMM Pneumatractor equipped with SKYWORKER

A combination of height and reach, speed of operation, supply of air, 105 cfm, and efficiency, cut overhead on building and shop maintenance.

Write for Bulletin SK1-53

SCHRAMM, INC.
The Compressor People
WEST CHESTER, PA.

NEW LITERATURE—Concluded

Identify as IEN - 0377

STEEL VALVES . . Globe, angle, check, feed-line cast-steel units in 300, 600, 900 and 1,500-lb. pressure ratings. Details in 56-page Catalog 12, Section C. Edward Valves, Inc., 1235 W. 145th St., East Chicago, Ind.

Identify as IEN - 0378

VIBRATORS . . Pneumatic units to use on bins, hoppers, chutes, handling cement, sand, gravel are summarized in 6-page Catalog 106 which includes a questionnaire sheet. Cleveland Vibrator Co., 2736 Clinton Ave., Cleveland 13, Ohio

Identify as IEN - 0379

VISES . . Quick-acting cam-locking drill press vise with 3 to 9-in. opening in 4 sizes, also a fixture lock with the same mechanism, a screw-operated drill vise, and a hand-operated nibbler-shear. Catalog, 9 sheets. Heinrich Tools Inc., 1212-18 Sixteenth St., Racine, Wis.

Identify as IEN - 0380

WEED KILLERS . . Chemical materials to kill weeds and brush are grouped into non-selective and selective types in 4-page "Weed Killer" folder. Brulin & Co., Dept. 632, 2939 Columbia Ave., Indianapolis 7, Ind.

Identify as IEN - 0381

WELDING ELECTRODES . . Tips, wheels and water-cooled holders for resistance welding machines. Bulletin RW-1a, 24 pages, includes dimension drawings on standard models along with the copper-base alloys employed. Ampco Metal, Inc., 1743-47 S. 38th St., Milwaukee 46, Wis.

Identify as IEN - 0382

WELDING ROD . . Eight bronze alloys in Muntz, tin and manganese types are listed as to composition, properties and recommended use in 6-page "Bronze Welding Rods." Titan Metal Mfg. Co., 353 Thomas St., Bellefonte, Pa.

Identify as IEN - 0383

WIRE CLOTH PARTS . . Five examples in story form on design of filters, strainers, screens in new 8-page Bulletin 531 gives reasons for the design procedures. Multi Metal Wire Cloth Co., 1348-52 Garrison Ave., New York 59, N. Y.

Identify as IEN - 0384

WIRE ROPE . . Constructions from ultra flexible to locked-coil crush-resistant are shown by diagrams and explanatory notes in 64-page Wire Rope Handbook R-51, new but with a 1951 copyright. Breaking strengths, weights, fittings, sheave suggestions are included. A. Leschen & Sons Rope Co., 5907-11 Kennerly Ave., St. Louis 12, Mo.

Identify as IEN - 0385

TORQUE WRENCHES . . Square-socket drivers, box and open-end types, hose clamp units, screw drivers, all in Livermont design to release at a given torque. "Proper Torque," 16 pages, also covers torque testers. Richmont Inc., 806-10 W. Santa Anita Ave., San Gabriel, Calif.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5729

YOU CAN DO A BETTER JOB WITH TUFFLEX* FACTS

There's a storehouse of profitable information in this Tufflex Sample & Specification Kit. Here's the amazing story about a new "man-made" cellulose felt...to help you solve problems of packaging, thermal insulation, vibration, shock absorption, cushioning and padding. Get the Tufflex facts. Investigate Tufflex for increasing production and reducing costs...increasing quality and sales. Write on your letterhead to Wood Conversion Co., Dept. 126-53 First National Bank Bldg., St. Paul 1, Minn.

Keep Your Eyes On... TUFFLEX*

*REG. U. S. PAT. OFF.

If you write maker identify as IEN - 5730

DOUBLE YOUR MONEY BACK!

● Users tell us that MICRO-KLEAN cartridges have twice the effective life of ordinary filter cartridges. But we'll leave it up to you. Try a MICRO-KLEAN cartridge. If it doesn't outperform any cartridge you've previously used, we'll send you double your money back. (Standard cartridges are 9¾" long x 2¾" O.D., in densities of 10, 25 and 50 microns.) Write to Cuno Engineering Corp., Dept 6913A, South Vine Street, Meriden, Conn.

If you write maker identify as IEN - 5731

What the eye does NOT see is the miracle of graphic arts engineering that is a part of every Meyercord Decal Nameplate. As the illustration-diagram indicates, the Meyercord Decal starts with a specially engineered adhesive and stacks color upon color, topping it all with a tough protective coating.

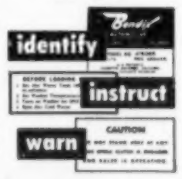
The Meyercord Decal Nameplate you apply to your product is the result of vast experience and never-ending engineering improvement. Just "any" decal won't do the job. Today's multiplicity of commercial surfaces and finishes demand exhaustive pre-testing to make very sure your Meyercord Decal Nameplate lasts the full life of the product.

Meyercord Decals cut production costs when used as nameplates, trademarks, instructions, markers, wiring diagrams, safety warnings and other important applications. Write for full information about our complete technical and designing services.

Write for the big Meyercord "Mark-It" Decal Nameplate Manual...FREE

Shows hundreds of uses for durable, washable decal nameplates. The "Mark It" manual is FREE . . . request it on your business letterhead, please.

Specify Meyercord Decals to



THE MEYERCORD CO.
World's Largest Decalcomania Manufacturers

DEPT. E-315
5323 WEST LAKE STREET
CHICAGO 44, ILLINOIS

If you write maker identify as IEN - 5732

FREE! New Book!

Just off the Press!

New booklet that tells you how to avoid losses in time, equipment and production due to electrical overloads, short circuits, motor failures and electrical fires. Write for your copy now.

MULTI-AMP CORPORATION, HARRISON, NEW JERSEY

If you write maker identify as **IEN - 5733**

KENT presents a sturdy truck to carry the Kent Suction Cleaner and extra dirt receptacle

Large Capacity for WET or DRY work!

With this arrangement, large capacity is provided for both dirt or liquids. Automatic shut-off valve operates when both tanks are full of liquid . . . none can enter fans or motor! Vacuum Cleaner and 27 gallon tank are installed on truck in a jiffy and easily removed without tools, so that vacuum cleaner can be used in small areas when required.

Our 40th Year — Serving the World with Quality Equipment

Full information upon request

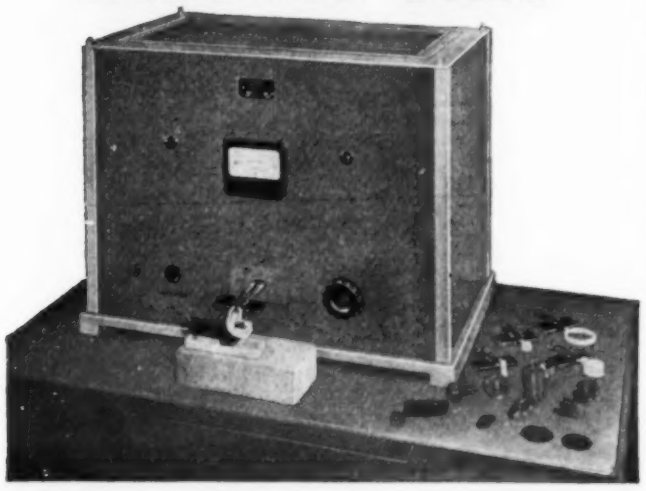
CLEAN WITH KENT EQUIPMENT

The KENT Company, Inc., 437 Canal St., Rome, N. Y.

If you write maker identify as **IEN - 5734**

Lepel *presents*

A *Low Cost* PORTABLE HIGH FREQUENCY *Induction* HEATING UNIT



This versatile unit is priced so low that every shop may now take advantage of modern induction heating techniques to improve quality and to increase production. Its simplicity of operation eliminates the need for skilled personnel.

The Lepel Model 2 KW will meet the requirements of machine shops, toolrooms, research laboratories and educational institutions. It is especially suitable for hardening, brazing and soldering small parts of either ferrous or non-ferrous metals.

Complete unit with line connection and load coil **$870.** f. o. b. factory

BRAZING — Permits widest choice of silver or copper brazing alloys from lowest to highest melting points. Ideal for brazing carbide tips.

HARDENING — Heat localized exactly where wanted at desired temperature. Ideal for gears, cams, bearing surfaces, cutting tools and other areas that are subject to wear.

SOLDERING — Speedily and neatly performs intricate soldering applications with or without the use of pre-formed rings.

ANNEALING — Ideal for annealing, stress-relieving, normalizing or pre-heating selected areas.

MELTING — Readily melts quantities of ferrous and non-ferrous metals in either graphite or ceramic crucibles.

- **SMALL AND COMPACT** — Conveniently operated on bench or table—no mounting necessary.
- **ECONOMICAL OPERATION** — No special power installation required. Operates on 110 volts, 60 or 50 cycle line at unity power factor.
- **FULLY GUARANTEED** — Guaranteed for continuous duty cycle and stated performance.

WILL HEAT TO 1500° F.

1/16" steel rod 1" length in approx.	1 second
1/8" " " " " " "	3 seconds
1/4" " " " " " "	15 seconds
1" " " " " " "	60 seconds

Will melt 4 ounces of brass or steel in 4 minutes. Equally well suited for heating of non-ferrous metals.

All Lepel equipment is certified to comply with the requirements of the FCC.

LEPEL HIGH FREQUENCY LABORATORIES, INC.
55th STREET and 37th AVENUE, WOODSIDE 77, NEW YORK CITY N. Y.

If you write maker identify as **IEN - 5736**

CLEANING . . Portable vacuum machine for wet or dry operation, rates 1 hp.

Source: ACE CO.
118 W. Washington St., Ocala, Fla.

Quiet operation

Alaco trade names a new portable vacuum cleaner with a tank holding 10 gal. of liquid or 1¾ bushels of dry refuse. A suction blower is driven by a 1-hp. 110-volt universal motor. The blower develops water lift of 60 in. at the intake. The machine measures 16 in. in diameter by 30 in. in height. It is available with a complete set of tools. It rides evenly on its three swivel casters. Model 500, with a filter and 35 ft. of Underwriters Approved cord, lists at $195 without hose or tools.

If you write maker identify as **IEN - 5737**

CORROSION PROOFING . . Liquid resin for laboratory bench tops, hardware

Source: BRINER PAINT MFG. CO.
3711-15 Agnes, Corpus Christi, Texas

List price
$7.20 per gallon

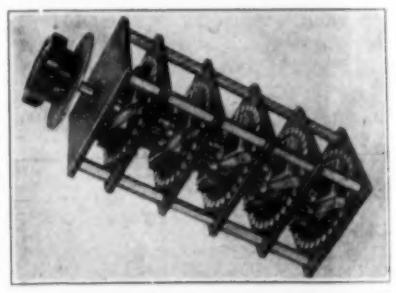
Duraflint is a new resin to mix, prior to application, with an acid activator and then to spray on surfaces to be protected against corrosion. Following the application, temperature is raised to about 140 deg. F., employing infrared equipment or other means for about one hour. The resulting film can be washed in solvents, acids, chemicals without harm.

The liquid can be made clear or black and is supplied with the acid activator in a separate container. The clear material is particularly suited for use on wood that requires protection against chemical liquids and fumes.

If you write maker identify as **IEN - 5738**

SWITCH . . Rotary decade unit makes contacts in counting sequence

Source: DAVEN CO.
189-93 Central Ave., Dept. DC, Newark 4, N. J.



Silver contacts

Type 410 is a new assembly of switch panels with reduction gearing in 10 to 1 ratio between adjacent panel assemblies. Turning the dial makes 10 contacts on the first panel, completes the first count on the second panel. **An assembly** of five panels provides a maximum count of 99,999 positions. The switch is available in a specified number of panels for hand or power operation to 500 rpm. Contacts are rated for standard control circuits.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 5739**

STANDARDIZE *with* OHIO *Stock Distributors*

• Call him, he is engineered to keep your plant and product moving.

DISTRIBUTORS AND REPRESENTATIVES

•Akron 11, Ohio
Hardware & Supply Co.
•Baltimore 2, Md.
L. A. Benson Co., Inc
•Brooklyn 6, N. Y.
(Gears) Northside Leather Belting Co.
•Buffalo, N.Y.
•S. H. Pooley Belting Co.
F. E. Allen Co.
•Chicago, Ill.
Apex Power Equipment Co.
Schrade-Batterson Co.
•Cincinnati 14, Ohio
Metzger Machine Co.
•Cleveland, Ohio
J. A. Shomer Co.
Ohio Gear Co.
•Detroit 3, Mich.
Abrasive and Supply Co.
•Erie, Penn.
Cohen Auto Parts Co., Inc.
•Findlay, Ohio
Bearing & Transmission Co.
•Grand Rapids 2, Mich.
F. Rantville Co.
•Hagerstown, Md.
Hagerstown Equip. Co., Inc.
•Hoboken, New Jersey
(Gears) Crown Industrial Sup.
Houston 3, Texas
Behring's Bearing Service, Inc.
•Indianapolis 2, Indiana
A. R. Young Company, Inc.
•N. Kansas City 16, Missouri
Seeco Engr. & Supply Corp.
•Los Angeles 21, Calif.
J. W. Minder Chain & Gear Co.
Louisville 2, Ky.
Alfred Halliday
•Massillon, Ohio
Hardware & Supply Co.
•Memphis 2, Tenn.
Memphis Bearing & Supply Co.
•Miami 9, Fla.
General Equip. & Supply, Inc.
Milwaukee 1, Wisc.
A. F. Kurt Co.
•Minneapolis 4, Minn.
Industrial Supply Co., Inc.
•Muskegon, Mich.
Lakeshore Machinery & Supply Co.
•New Orleans, La.
•(Gears) R. J. Tricon Co., Inc.
•(Reducers) Woodward Wight & Co., Ltd.
•New York 13, N. Y.
•(Reducers) Patton Trans. Co., Inc.
•(Gears) Stimpson Gear Works
•Paterson, N. J.
(Gears) Bernstein Bros., Inc.
Pawtucket, Rhode Island
George G. Frost
•Philadelphia 3, Pa.
•Robert J. Lehmer Co.
•Rothman Belting & Equip. Co.
•Piqua, Ohio
Borneff Supply Co.
•Pittsburgh, Pa.
Standard Machinists Supply Co.
•Portland 14, Oregon
J. W. Minder Chain & Gear Co.
•Rochester, N. Y.
H. S. Shaw & Son
•San Francisco 3, Calif.
Adam Hill Company
•St. Louis, Mo.
The Leonhardt Co.
•Syracuse, N. Y.
U. & S. Inc.
•Toledo 1, Ohio
G. A. Boeckh Co.
IN CANADA: •Montreal, Quebec.
John Brightwood & Sons, Ltd.

•Stocks Carried.

ESTABLISHED 1915
THE OHIO GEAR COMPANY
1345 EAST 179th STREET • CLEVELAND 10, OHIO

OHIO GEARS

If you write maker identify as **IEN - 5740**

ALLIS-CHALMERS Combination STARTERS

a magnetic starter and a safety switch in one compact unit . . .

Starter has silver-to-silver double break contacts and non-carbonizing arc chambers. Circuit breaker gives short circuit protection, serves as disconnect switch. Available in sizes 0 to 5.

Starters with fusible or nonfusible disconnecting switches are available up through size 3.

A-4046

There is an Allis-Chalmers starter for every motor need. Contact your nearby A-C representative or write for selection guide 14B7733, Allis-Chalmers, Milwaukee 1, Wisconsin.

ALLIS-CHALMERS

If you write maker identify as **IEN - 5741**

CLANCY SURE-GRIP HOSE CLAMPS

- CAN BE REUSED
- HEAVY STEEL
- PERFECT CIRCLE

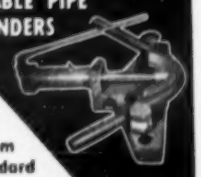
Clancy clamps grip evenly, hold any pressure the hose stands. Each part separately galvanized . . . no raw edges, won't rust. Sure-Grips keep their shape, can be removed and reused. For air, gas, water or steam. Every size to fit foreign or domestic hose. Write for prices.

J. R. CLANCY INC.
1000 W. Belden Ave.
SYRACUSE 4, N. Y.

If you write maker identify as **IEN - 5742**

WATSON-STILLMAN
HYDRAULIC POWER TOOLS FOR INDUSTRY

WIRE ROPE SHEARS



PORTABLE PIPE BENDERS

W-S

Bends standard, extra heavy and double extra heavy steel pipe from 3/8 in. to 2 in., as well as standard weight pipe up to 3 in. dia. Also solid mild steel bars up to 2 in. dia.

W-S wire, cable and bar shears provide years of trouble-free general service. They are light and portable for convenient on-the-job use.

Single and double plunger types, with reservoirs of different capacities for operating small hydraulic tools, jacks and other hydraulic equipment, and for general hydrostatic testing purposes.

These sturdy units, with either independent or integral pumps, are useful for many jobs in construction and maintenance. Capacities from 20 to 500 tons.

HYDRAULIC JACKS

HAND PUMPS

9-0-9

Send for your copy of Bulletin A-5 . . . It's Free.

WATSON-STILLMAN FITTINGS DIVISION
H. K. PORTER COMPANY, INC.
Roselle, New Jersey

If you write maker identify as IEN - 5743

DAY DUST CONTROL

SINCE 1881

A SINGLE UNIT OR A COMPLETE SYSTEM

DAY's reverse air jet mechanism provides uniform cleaning.

INDUSTRIAL PLANTS FIND DAY HIGH PRESSURE

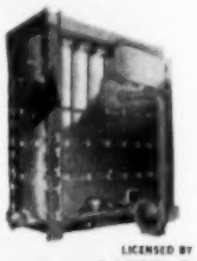
REVERSE AIR JET CLEANING ACTION

MORE ECONOMICAL! MORE EFFICIENT!

Reverse Air Jet Ring Travels Continuously Up and Down the Entire Filter Tube. High Pressure Reverse Air Blown Through the Filter Felt Keeps Filter Tubes Clean Constantly.

99.99+% Filtering Efficiency Provides Important Savings in Reclaiming Valuable Products

DAY's improved cleaning action permits the use of better filtering fabric which gives filtering efficiencies up to 99.99+%. One **DAY** "AC" Dust Filter can handle four different product streams simultaneously, without mixing. Bulletin 528 gives facts, figures and comparison charts. Be sure to see it. Write



The* DAY *Company

813-3rd Avenue N.E. • Minneapolis 13, Minnesota

IN CANADA: P. O. Box 707, Ft. William, Ont.

Branch Plants in Buffalo, Ft. Worth and Welland, Ontario

LICENSED BY H. J. HERSEY, JR.

If you write maker identify as IEN - 5744

You Just Can't File Away These Problems...

BLAST CLEANING

...of bridges, buildings, tanks, structural work

Pangborn Blast Cleaning Machine—Cleans tanks, bridges, structures quickly and economically. Ideal for maintenance and other jobs, such as removal of dirt, rust, etc. Six sizes, stationary or portable, **$187** and up.

...of small castings, forgings, stampings, heat treated parts.

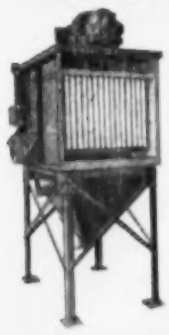
Pangborn Blast Cabinet—Saves time and money in cleaning small metal parts, removing rust, scale, grime, old paint, etc., in a few seconds. Perfect for producing clean, smooth surfaces on pieces 60" x 35" in size. Models from **$319** and up.

PRECISION FINISHING

...of molds, dies, tools

Pangborn Hydro-Finish Cabinet—Removes scale and directional grinding lines . . . holds tolerances to .0001" and prepares surfaces for painting or plating. Liquid blast reduces costly hand cleaning and finishing of molds, dies, tools, etc. Models from ..... **$1410** and up.

CONTROLLING DUST



...at the source of origin

Pangborn Unit Dust Collector—Traps dust at the source. Reduces maintenance costs . . . keeps plant clean and improves community relations. Allows reclamation of valuable material. Models from ..... **$286** and up.

BUT YOU CAN MAIL THIS COUPON TO PANGBORN FOR HELP IN SOLVING THEM!

Pangborn

Look to Pangborn for the latest developments in Blast Cleaning and Dust Control equipment

☐ Blast Cleaning Cabinets
☐ Blast Cleaning Machines
☐ Unit Dust Collectors
☐ Hydro-Finish Cabinets

PANGBORN CORP., 2300 Pangborn Blvd., Hagerstown, Md.

Gentlemen: Please send me more information on the equipment I've checked. To be used for.....

.....

Name .....

Company .....

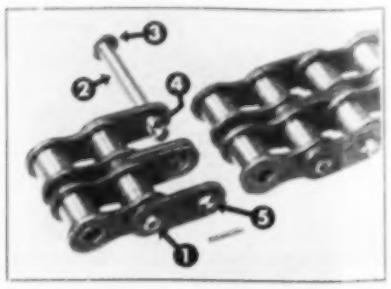
Address .....

City .....Zone....State.....

If you write maker identify as IEN - 5746

DRIVE . . Riveted roller chain joined at intervals by coupler links

Source: BALDWIN-DUCKWORTH DIVISION
358 Plainfield St., Springfield 2, Mass.



Ask for Bulletin 52-2

New chain combines the wearing characteristics of riveted construction with provision for quick assembly and disassembly at single pin coupler links. The chain is supplied in 10-ft. lengths with the coupler links at various intervals to permit making up any even length of chain from two pitches to 10 feet. Odd pitch lengths are made by employing a three-pitch riveted offset section. Construction is available in two and three roller widths and in 1 to 2½-in. pitch.

One end of the single pin coupler link is riveted to the adjacent link 1, to the left in the illustration. The other end contains the coupler pin 2. One end of this pin is spun over a washer 3. The other end carries a milled flat and locking pin hole 4. The pin fits easily through the chain, except for the milled flat end. It press fits into the matching hole 5 of the single pin coupler plate. Thus it is necessary only to drive the pin the length of its milled flat to assemble the link or take it out. The company has prepared a set of tables showing how to select intermediate lengths within the overall 10-ft. standard sections to make up any desired number of pitches for a given drive.

If you write maker identify as IEN - 5747

FLOORS . . Adjustable plates form base for equipment assembly

Source: CHALLENGE MACHINERY CO.
1553-57 Fulton St., Grand Haven, Mich.

For a specified load

Single plates, to 54 in. in width by 144 in. in length, or interlocking units for larger areas, are available in a new adjustable floor plate with which to build a level assembly floor. Adjustment is by hardened screws located around the edge of each plate and at each intersection of the ribbing. These screws are held in place by locking screws. The threaded holes are capped. Special wrenches are provided to make the adjustment. The plates are made of ribbed cast iron finished on the sides, top and rib bottoms. T-slots are provided to anchor the equipment being assembled.

Identify as IEN - 5748

It spreads with a brush on any metal surface, indoors or outside, rusted or not. It penetrates rust, adheres to the clean surface beneath, forms a tight seal to keep out moisture, chemicals, fumes. It is known as Rustrem and is made by Speco Incorporated. Three colors, red, gray and green, have been added to the original aluminum, black and clear.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5749

Shhh . . . you have to get up close to hear a CLEVELAND air cushioned vibrator. It's ideal on most hoppers, bins, chutes close to employees. Stops arching, bridging, sticking of granulars.

Also standard metallic impact types . . . wide selection of piston diameter sizes.

LITERATURE ON REQUEST

THE CLEVELAND VIBRATOR COMPANY
2736 Clinton Avenue • Cleveland 13, Ohio

If you write maker identify as IEN - 5750

CANNON PLUGS *for storage batteries*

Cannon Battery Connectors are used for starting aircraft engines, stationary power units, pumping engines, welding equipment, and numerous applications where circuits carrying high amperage and relatively low voltage require easy or frequent disconnect for efficiency.

The plugs are made with many variations in material, shell and contact design, with and without mechanical assists for making and breaking contact. Some have auxiliary contacts for signaling purposes or solenoid contact of the high amperage circuits to prevent arcing. All 25-odd types are of highest quality.

New Battery Connector Bulletin GB-4 available on request

CANNON ELECTRIC

Since 1915

CANNON ELECTRIC COMPANY
LOS ANGELES 13, CALIFORNIA

Factories in Los Angeles, Toronto, New Haven, Great Lakes Division, Benton Harbor, Mich. Representatives in principal cities. Address Inquiries to Cannon Electri Co., Dept. E-112, P. O. Box 75, Lincoln Heights Station, Los Angeles 31, Calif.

If you write maker identify as IEN - 5751

SAFER WAY TO TRANSFER INFLAMMABLE FLUIDS

Fast-Flo *Does it* **SAFER FASTER CLEANER**

DRUM PUMP

Old Way

Drums are placed on sides in special racks or supports, have molasses valves or spigots. Pails, troughs, or makeshift drain receptacles catch seepage. Disadvantages: "bad housekeeping" from dripping or leaking valves, danger of flash fires, maximum floor space needed, chances of injury in awkward drum handling positions.

New Way

Drums stand upright. Lightweight, economical, air-operated Fast-Flo pump dispenses any amount required. Advantages: no waste, no spilling, fire hazard minimized, less floor space required, no special racks, drums in safest position for injury-free handling.

Try this new GRACO safety system in your own plant. The durable Fast-Flo pump provides double-action high-volume delivery with no pressurizing of drums. For example, it handles 18 gallons per minute of No. 20 oil. Full-size drums can be emptied in 3 minutes.

One man sets up the 13-pound Fast-Flo easily. Pump is simply, strongly constructed for long service. Built to resist deterioration, delivers fluids cleaner. Fast-Flo handles most light fluids, will pay for itself quickly.

SEND FOR THIS NEW **DRUM PUMP IDEA BOOK**
Tells you where and how this pump can save you time and money. Write for your copy now!

GRACO *Fast-Flo* **DRUM PUMP**

Regional Offices: New York, Philadelphia, Chicago, Detroit, San Francisco, Atlanta

GRAY COMPANY, INC., 51 Graco Square, Minneapolis 13, Minn.

If you write maker identify as IEN - 5753

Here's a **4 in 1 HEAT CONTROL**

1. DOUBLE POLE THERMOSTAT
2. AUTOMATIC HEAT SELECTOR
3. TWO-CIRCUIT SWITCH
4. FAST HEAT ELEMENT CUT-OUT

Just turn the dial and two elements are automatically cut in for quick pre-heating. Shortly before pre-heat temperature is reached, the control cuts out No. 1 element to minimize overshoot; then automatically cuts out No. 2 element, then automatically maintains temperature by recycling No. 2 element.

Here is a control that may solve many problems where it is desired to pre-heat quickly and then maintain set temperature automatically. This control has a maximum temperature range of 550°, is fully automatic, flexible, compact. It is easy to install in any of four mounting positions. Three basic models are available. ***Write for full information.***

Robertshaw-Fulton
CONTROLS COMPANY

ROBERTSHAW THERMOSTAT DIVISION, YOUNGWOOD, PENNSYLVANIA

If you write maker identify as IEN - 5754

Designed for those who need a
LIGHT-HEAVYWEIGHT
Variable Speed Lathe

Another WALKER-TURNER "First"

For jobs where neither the capacity nor expense of heavy industrial machines is warranted, Walker-Turner has engineered a special class of *light-heavyweight* machines.

Professional in design and operation, the Walker-Turner line gives industry the accuracy, range of speeds and capacity needed, without the necessity of heavy investment.

TYPICAL "LIGHT-HEAVYWEIGHT"

Designed primarily for woodturning, the heavy cast iron headstock and double row pre-loaded spindle bearings make it an ideal machine for metal-spinning. Spindle speeds, changed while the machine is running, are controlled by hand wheel located in front of headstock. Speed ranges: 660 to 3550 r.p.m., in stepless gradients (using 1740 r.p.m. motor) is indicated on graduated scale in plain view of operator. Capacity: Swing, 15½" over gap, 12" over bed, 38" between centers.

SOLD ONLY THROUGH TRAINED INDUSTRIAL DISTRIBUTORS

WALKER-TURNER
• DIVISION •
KEARNEY AND TRECKER CORPORATION
PLAINFIELD, N. J.

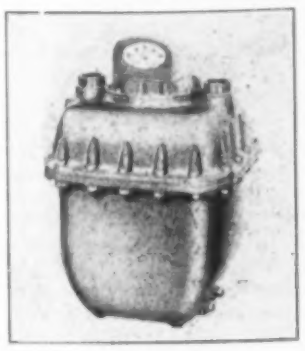
Drill Presses—Hand and Power Feed • Radial Drills • Wood and Metal Cutting Band Saws • Tilting Arbor Saws • Radial Saws • Jig Saws • Lathes • Spindle Shapers • Jointers • Belt and Disc Surfacers • Flexible Shaft Machines

Use this space
to send for full details and specifications.
Walker-Turner Division, Kearney & Trecker Corp.
Dept. IE-5, Plainfield, N. J.
(Please write your name and address in margin of page)

If you write maker identify as IEN - 5756

METER . . Aluminum body design for fuel gas, pressure to 100 pounds

Source: ROCKWELL MFG. CO.
624 N. Lexington Ave., Pittsburgh 21, Pa.



Vertical dial

Series 800 designates a new meter. It is assembled in an aluminum housing and equipped with 1½-in. pipe connections to measure fuel gas flow. Capacity is 800 cfm. at ½-in. differential, 1,600 cfm. at 2-in. differential. Maximum working pressure is 100 pounds. The meter weighs about 63 pounds. It is a positive displacement design. The measuring mechanism and valve plate casting can be removed as a unit for repair or replacement.

If you write maker identify as IEN - 5757

GLARE PROOFING . . Flat glass transmits 25 per cent of visible light

Source: PITTSBURGH PLATE GLASS CO.
634 Duquesne Way, Pittsburgh 22, Pa.

Stops all direct glare

Duskite is a new lamination of two layers of window glass and a center layer of neutral gray vinyl plastic. Manufacturing process is the same as that employed for Duolite automotive safety glass for glare control in which the vinyl inner layer employs a stable gray pigment.

Solar heat transmission is about 50 per cent. The glass is particularly suited for use as a relatively inexpensive light control for ribbon windows and ventilator units employed in connection with functional glass block installations. Application provides a certain amount of daytime privacy since it is easier to see through the glass to the outside than it is to see from the outside in, whenever outside illumination is greater than that of the interior. Standard thickness is 7/32 inch. Sizes are to 15 square feet.

If you write maker identify as IEN - 5758

PACKAGING . . Shipping container encloses product cushioning filler

Source: GREENWOOD PACKAGING SUPPLY CO.
861-877 Summer Ave., Newark 4, N. J.

Return to refill

A metal container that can be re-used is fitted with a clamp type cover. It encloses a resilient cushioning material in this new shipping container. It can be employed in all Government Method 2D packaging under Specification MIL-P-116A. The cushioning material can be molded foam rubber, Co-Ro-Tex, Kapok wrapped pads or die-cut Tufflex. Container sizes and product shape can be specified as required.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5759

Save DOLLARS

with DESTACO TOGGLE CLAMPS

De-Sta-Co Toggle Clamps are extremely flexible in their application and are economically and easily adapted to work-holding fixtures for assembly, welding, bonding, machining or other production processes. Smooth, fast, powerful clamping action clamps parts quickly . . . holds them firmly in perfect alignment . . . releases instantly for easy removal and insertion of new workpiece.

De-Sta-Co clamps are engineered for rugged use in production; reamed bearing holes insure precision fit, long life and sensitive operation . . . offsets in handles and links relieve friction . . . made with cold drawn bars, and forged portable clamp parts. Accessories for adapting clamps to specific applications are available.

Write today for name of nearest distributor and your copy of the De-Sta-Co catalog which describes over 40 fixture and portable models with positive holding pressures up to 4000 pounds.

DESTACO DETROIT STAMPING COMPANY
342 MIDLAND AVENUE • DETROIT 3, MICH.

If you write maker identify as IEN - 5760

ENGRAVE
PANELS OF ANY DIMENSIONS
IN YOUR OWN SHOP
with the Engravograph

The only portable machine which reproduces 15 sizes from one master alphabet.

The only one with adjustable copy holding slides for multi-line engraving in one set-up.

Self-centering holding vise for nameplates.

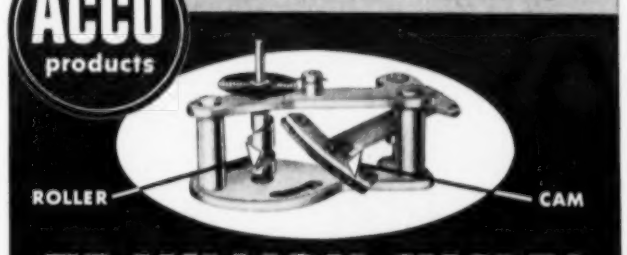
Send for Booklets
I-S-23 portable model • H-23 heavy duty model

NEW HERMES, Inc. 13-19 University Place, N.Y. 3
In Canada: 359 St. James St., Montreal
World's Largest Manufacturer of Portable Engraving Machines

If you write maker identify as IEN - 5761

ACCO products

HELICOID GAGES



75 MILLION CYCLES
No Appreciable Wear

HELICOID Gages...

No Gears, No Teeth—Break-down test by U. S. Testing Co. showed no appreciable wear after being pulsated 1200 times per minute for 75 million cycles.

Retain Original Accuracy—Movement releases cam from roller at maximum dial reading, remeshes instantly. HELICOID Gages retain original accuracy longer, last longer, cost less per gage per year.

Many sizes, Many styles—For vacuum, pressure, or compound service.

ACCO See distributor or write for **CATALOG G-2**

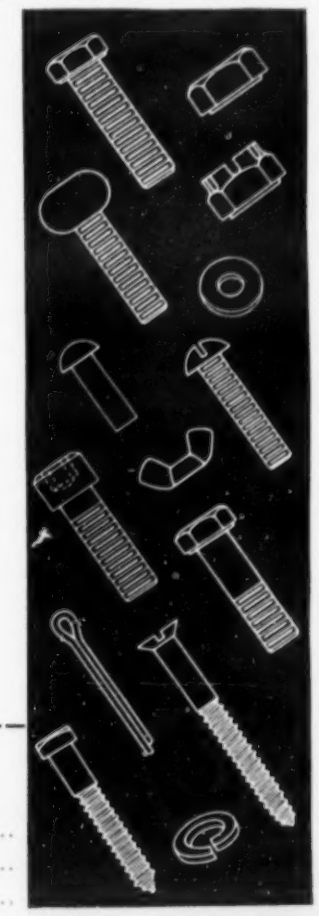
HELICOID GAGE DIVISION
AMERICAN CHAIN & CABLE
927 Connecticut Avenue • Bridgeport 7, Connecticut

HELICOID Pressure • Vacuum **GAGES**

If you write maker identify as IEN - 5762

HARPER
HAS THEM!
Everlasting Fastenings by the Dozen or the Million!

- **Specialists in bolts, screws, nuts, rivets, washers and fastening accessories!**
- **In brass, bronze, copper, aluminum, stainless steels, Monel!**
- **For all problems involving corrosion, heat, abrasion, stress, appearance!**
- **America's largest producer of non-corrosive fastenings!**
- **Larger stocks, greater selection —over 7000 items!**
- **Deliveries from nearby warehouse and distributor stocks!**
- **Ask for complete Harper Price List and Stock Book!**



HARPER
EVERLASTING FASTENINGS

The H. M. Harper Company
8211 Lehigh Ave.
Morton Grove, Ill.
Rush Harper Price List and Stock Book.

Name.....
Address.....
City.....State.....

If you write maker identify as IEN - 5763

Safety Lesson No. 1

"MISSING LINKS"*
Repair Chains Better

Do away with danger of opening up under heavy load by specifying Laughlin "Missing Links".

Pressure fitting of matched halves with special dies insures perfect fit, eliminates tendency of loose-fitting links to shear.

Links, not rivets, carry the load. Interlocking lugs grip firmer, bear the weight. Ordinary round lugs fitted into round holes don't have holding power.

"Missing Links" are also supplied in an exclusive pear shaped design in sizes for 3/8" to 1 1/8" chain. Free Catalog No. 150 lists full line.

For Safety's Sake . . . Say LAUGHLIN

THE THOMAS LAUGHLIN CO.*
51 Fore Street, Portland, Maine

*T. M. REG.

Buy from your local distributor

If you write maker identify as IEN - 5764

Hear HERE!

LOUDNESS REDUCED 50%*

Inside a Burgess-Manning Acousti-Booth

- The hushed interior of a Burgess-Manning Acousti-Booth provides a quiet, restful place to hear well.
- Light, sturdy construction for ease of moving . . . compact design.
- Doorless construction . . . light, airy, well ventilated.
- Wall and floor models.
- Suited to any noisy location.

Model 211 Floor Booth

Model 602 Wall Booth

** Based on studies by a prominent research organization.*
Write for Bulletin A-107

BURGESS-MANNING COMPANY
Architectural Products Division
5970-A Northwest Highway, Chicago 31, Illinois

If you write maker identify as IEN - 5765

LET DOLGE MAKE a scientific, factual SANITARY SURVEY of your Premises at NO cost to you!

Here's what we do—

1. Your Dolge Service Man inspects your premises and sends his complete record to our home office;
2. Our technological staff analyzes your sanitary maintenance problems. You receive, without charge or obligation, a complete and detailed report;
3. Where the use of Dolge products is indicated, and where you accept our recommendations, your Dolge Service Man "follows through" in instructing your staff and returning for periodic reinspection.

Please write for Dolge Sanitary Survey booklet.

Dependable DOLGE
WESTPORT, CONNECTICUT

If you write maker identify as IEN - 5766

TRUCK . . Electric power lift rates 1/2 to 2 ton, lift to 132 inches

Source: AUTOMATIC TRANSPORTATION CO.
149 W. 87th St., Chicago 20, Ill.

Ask for Catalog

Skylift-CF designates a new series of motor driven power lift fork trucks featuring a maximum lift height of 132 inches. There is a 19¼-in. free lift before overall height of the uprights begins to increase. Sizes rating ½, ¾, 1 and 1½ ton are designed to handle a 48-in. load length. The 2-ton assembly load length is standard at 30 inches.

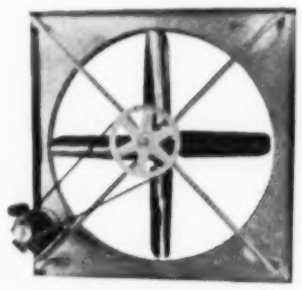
New design includes silicone insulated motors for the four speed travel drive and the hydraulic pump that provides pressure for the dual cylinder assembly in the lift mechanism. The hydraulic circuit is protected so a load will not drop if a line opens accidentally. The upright channels are made of rolled steel sections with interchangeable carriage and upright rollers mounted on sealed ball bearings.

Non-plugging speed control, operated by a foot accelerator, prevents reversing the truck in other than first speed. A direction control lever is located on the steering column in front of the operator. A dead man control requires that the operator's foot be on the accelerator or all current is shut off. The brake is connected with the seat so it sets if the operator stands up for any reason.

If you write maker identify as IEN - 5767

VENTILATING . . Panel mounted fan for exhaust duty operates quietly

Source: DANA FAN & BLOWER CORP.
3503-25 Colerain Ave., Cincinnati 23, Ohio



Steel impeller

Five sizes range from 24 to 48 in. in impeller diameter in this new Model-IC ball bearing exhaust fan. The belt connected motor rates ½ to 1½ hp. The smallest unit operates at 1,175 rpm., the largest at 485 rpm. Free air capacity is 6,025 to 21,950 cfm. Overall dimensions are 32 by 32 in. to 56 by 56 inches. Weight is 110 to 240 pounds.

The motor can be specified for 110/220-volt single-phase 60-cycle ac. operation with list price at $191 to $452 for the complete assembly. The list is $186 to $395 with a 220/440-volt three-phase 60-cycle ac. motor. Installation can be made vertically or horizontally.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . *See Page 50*

Find what you want?
Check the New Literature — page 82

If you write maker identify as IEN - 5768

PRECISION MEASURING

SCHERR MICROMETERS

Drop-forged steel frame easy to read. "No Glare" graduations. Guaranteed accuracy and unsurpassed workmanship.

For greater savings in dollars and better satisfaction, use "Scherr Tools".

Complete stock. All sizes — MM. or Inch.

MAUSER VERNIER CALIPER

For inside - outside and depth measurements in 1/1000, 1/128, 1/10mm and 1/20mm.

If not available from your dealer, order direct.
WRITE FOR ILLUSTRATED CATALOG

GEORGE SCHERR CO., Inc.
COMPLETE LINE OF PRECISION INSTRUMENTS
198-C LAFAYETTE ST. • NEW YORK 12, N. Y.

If you write maker identify as IEN - 5769

32 Pages of Helpful Information on Dust Recovery Systems

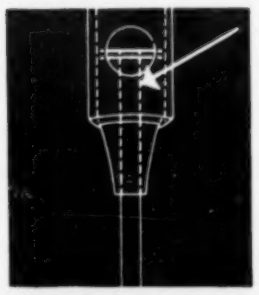
If you are now using dust or fly ash recovery equipment in your plant—or are planning installation of such equipment now or later—you will find this 32 page Multiclone booklet full of helpful information. Illustrations and diagrams outline basic principles of dust recovery and how to utilize them for maximum efficiency . . . how to simplify your installations . . . how to conserve valuable plant space . . . how to get high recovery over a wide range of particle sizes, etc. *A copy of this booklet should be in your files for reference and assistance in dust recovery applications. A free copy will gladly be sent you on request. Write today while supplies are adequate*

WESTERN Precipitation CORPORATION
ENGINEERS, DESIGNERS & MANUFACTURERS OF EQUIPMENT FOR COLLECTION OF SUSPENDED MATERIALS FROM GASES & LIQUIDS
Main Offices: 1011 WEST NINTH STREET, LOS ANGELES 15, CALIFORNIA
CHRYSLER BLDG., NEW YORK 17 • 1 N. La SALLE ST. BLDG., CHICAGO 2
1429 PEACHTREE ST. N.E., ATLANTA 5 • HOBART BLDG., SAN FRANCISCO 4
PRECIPITATION CO. OF CANADA, LTD., DOMINION SQ. BLDG., MONTREAL

If you write maker identify as IEN - 5770

Tube Talk THE "HOW-TO" COLUMN

PROBLEM:
The B.G. Corporation, makers of B.G. Spark Plugs, had trouble locating tubing with very close I.D. tolerance and good fabrication properties for electrodes of jet engine igniters that would withstand corrosive action of gases at 1800°F. Most materials corroded or eroded rapidly.



SOLUTION:
Superior Inconel* tubing .196/.200 O.D. x .129/.131 I.D.

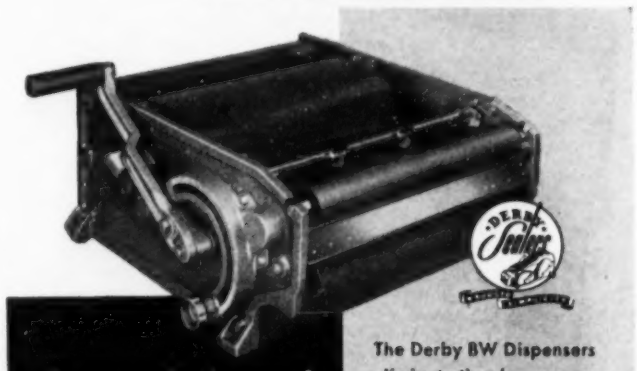
RESULTS:
Superior Inconel tubing provides better resistance to erosion and corrosion than any other materials used, has low thermal expansion so that it doesn't crack ceramic insulation, is easy to flare, ream and mill. It is not adversely affected by hydrogen brazing.

Suggestion—Write for information and literature today.

SUPERIOR TUBE COMPANY
2016 Germantown Ave., Norristown, Pa.

*Reg. U.S. Trade mark—The International Nickel Company.

If you write maker identify as IEN - 5771



Do you use barrier wraps? Then you need the new

DERBY BW BARRIER WRAP MEASURING DISPENSERS

The Derby BW Dispensers eliminate the slow, messy, expensive Barrier Wrap handling problem and provide a substantial saving in time, labor and material. Large rolls may be converted into the exact widths and lengths desired in one single operation.

Available in models to accommodate 4", 6", 8", 12" and 14" rolls and equipped with Universal Slitter to deliver a variety of desired widths and definite lengths.

For further information write Dept. IF

DERBY SEALERS, INC. DERBY, CONNECTICUT

If you write maker identify as IEN - 5772

ARMSTRONG BROS.
Better PIPE TOOLS

An easier, faster, better way to thread 1" to 2" pipe . . .

WITH POWER!

This light (26 lb.) compact Portable Power Pipe Threader, goes to the job—is operated with a ½" portable electric drill. 1 set of High Speed Steel Chasers do all sizes—just move indicator to 1", 1¼", 1½" or 2" marking. Clamp on pipe and apply drill to drive square. The rest is automatic. Operating on anti-friction bearings with automatic lead, it's a fast, easy way to get smooth, accurate threads.

Write for Catalog

ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
5243 W. ARMSTRONG AVENUE • CHICAGO 30, ILL.

If you write maker identify as IEN - 5773

EASIER LIQUID LEVEL READINGS WITH IMPROVED WIDE VISION REMOTE INDICATOR

A new-type face on the Yarway Remote Liquid Level Indicator now permits side as well as head-on dial readings.

This improved visibility makes it possible to check boiler water levels from most any position in the control room, or wherever the Yarway Remote Indicator may be installed.

The Yarway Indicator is a manometric type with automatic temperature compensation. Level readings are instant and accurate because the indicator is operated by the boiler water itself. Indicating mechanism is never under pressure. There are no stuffing boxes.

Over 8,000 Yarway Remote Liquid Level Indicators are successfully operating throughout industry—primarily for indicating boiler water levels, but also for many other liquid level applications, and for superheater pressure differential indicators aboard ship.

Write for free Yarway Indicator Bulletin WG-1823.

YARNALL-WARING COMPANY
122 Mermaid Ave., Philadelphia 18, Pa.

YARWAY | *remote liquid level indicators*

If you write maker identify as IEN - 5775

INSULATING . . Self-adhesive tape for use on fine coils, transformers

Source: MINNESOTA MINING & MFG. CO.
902 Fauquier St., St. Paul 6, Minn.

Stable to 125 deg. C.

Mylar plastic backing is faced with pressure sensitive, heat resistant, electrical grade of adhesive in this new No. 5 Scotch electrical tape. Thickness measures 3 mils. The material is transparent and has a dielectric strength of 5,500 volts. Tensile strength is 35 lb. per inch of width. Stretch is about 150 per cent of length, prior to breaking. Packaging is in 72-yard rolls in widths from ¼ to 1 inch.

If you write maker identify as IEN - 5776

HEATING . . Electric tape element for wrap-around application, to 60 ft.

Source: COX & CO.
16 E. 43rd St., Room 505, New York 17, N. Y.

Excellent for aircraft

Ribbon Heat-Aeronautical is a new assembly of four fine fuse wires, insulated and protected by glass fiber braid and impregnated with polyethylene, into a tape measuring about ½ in. in width by 0.1 in. in thickness. The tape is supplied in 4 to 60-ft. lengths. The wires are connected at one end to form an electrical circuit, sealed inside a molded vinyl button. Leads at the opposite end issue from a second molded button, terminate in Burndy quick disconnects.

The tape wraps around a pipe or object that is to be kept warm and connections are made to a power source. Lengths from 4 to 12 ft. operate on 26 volts and provide 40 to 120-watt rating. Lengths from 20 to 60 ft. operate on 110 volts and provide 140 to 420-watt ratings. If the temperature of the heating element becomes seriously excessive for any cause or, in the event of mechanical injury, the circuit will be opened by the fusible conductors melting. No sparks or flame will result from this melting action.

If you write maker identify as IEN - 5777

TRUCK . . Hand platform design, aluminum frame, forks and wheels

Source: TOBEY MFG. CORP.
1219-23 El Segundo Blvd., El Segundo, Calif.

Sizes to order

Load capacity is 1 ton in the 24 by 48-in. platform size of this new aluminum truck. Weight is 57 pounds. The line includes larger sizes with capacities to 3 ton. Each has rounded frame corners made of aluminum castings. The wheels are equipped with semi-pneumatic tires and are mounted on Timken bearings, factory lubricated and sealed.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5778

A PAID NEWS ADVERTISEMENT BY CARBORUNDUM COMPANY

ABRASIVE BELT GRINDING . . . New free booklet tells how to cut costs—raise production

The exciting story of how plants all over the country are increasing grinding production by as much as 350% by using the proper combination of CARBORUNDUM's Abrasive Belts and Contact Wheels—is told in this new booklet, "Abrasive Belts by CARBORUNDUM."

It gives you over 20 case histories, with photographs and production figures, of operations which are now being done on belt grinders at terrific savings in time and money. In many cases these savings resulted from changing to belts from grinding wheels or set-up wheels; in others, it was a matter of improving belt performance by choosing the right combination of belts and contact wheels.

It will give you some good ideas about the operations you could do better with belts . . . and the facts you need to make your present belt grinding jobs more profitable.

It describes the many advantages of the revolutionary new "T-61" Universal Hub Contact Wheel by CARBORUNDUM—the wheel that increases belt life up to 50% or more; and allows you to do *every* operation, from roughing to finishing, without removing the hub from the spindle.

Send for your copy today. No obligation, of course. Circle the number on the inquiry form—or, if you prefer, address your request to us at Dept. IEN 82-315.

And remember, for everything in abrasive products, call your CARBORUNDUM distributor or salesman.

"Carborundum" is a registered trademark of The Carborundum Company, Niagara Falls, New York

THE CARBORUNDUM COMPANY, Niagara Falls, New York

If you write maker identify as IEN - 5779

SPEED LOAD HANDLING
for Truck, Shop or Machine

UNIT *utility* HOIST

Hydraulically operated Unit Utility Hoists can speed and ease handling of 1000 to 2000 lb. loads around your trucks, shop or machines, and the hoist itself can be switched from the truck, floor or machine mount in seconds. Three lifting points and boom extension give a wide working range. Hoist swings 360° on truck and locks securely in traveling position. Many uses in every plant.

Write today for latest information

UNIT MFG CO. 1221 Harmon Place, Minneapolis 3, Minnesota

If you write maker identify as IEN - 5780

For your product-improving "TOUCH OF GOLD" —polish with ALUNDUM* Abrasive

Count on Norton ALUNDUM abrasive grain for extreme hardness and toughness, strict uniformity in size and shape, with a maximum of fast polishing, sharp-cutting edges. And its high capillarity means increased polishing wheel life and efficiency.

These and other advantages assure better polishing — your value-adding, cost-cutting "Touch of Gold" — every time you use ALUNDUM Abrasive.

YOUR NORTON DISTRIBUTOR can make quick deliveries, in any required quantity, from complete stocks in key cities. See him, too, about expert aid in polishing problems from your Norton Abrasive Engineer. Or write Norton Company, Worcester 6, Mass. Distributors in all principal cities. *Export:* Norton Behr-Manning Overseas Incorporated, Worcester 6, Mass.

*Trade-Mark Reg. U. S. Pat. Off. and Foreign Countries

G-252

NORTON ABRASIVES
Making better products to make other products better

If you write maker identify as IEN - 5781

Make Your Own Hose Lines

Cut Costs
Reduce Inventory
Reduce Downtime

Aeroquip Hose and Fittings form a perfect combination that permits you to make hose assemblies that meet Aeroquip's standard of quality . . . the highest in the industry. No special skill or training is required. This "Aeroquip Idea" cuts costs, inventory and downtime.

Aeroquip

AEROQUIP CORPORATION, JACKSON, MICHIGAN

FLEXIBLE HOSE LINES • DETACHABLE, REUSABLE FITTINGS • SELF-SEALING COUPLINGS • BREAKAWAY COUPLINGS • HYDRAULISCOPE
AEROQUIP PRODUCTS ARE FULLY PROTECTED BY PATENTS IN U.S.A. AND ABROAD

If you write maker identify as IEN - 5782

Challenge Layout Surface Plate with smooth, highly accurate surface.

CHECK THESE ADVANTAGES OF CHALLENGE precision LAYOUT SURFACE PLATES

Challenge Layout Surface Plate with "Tee-Slots".

- ✓ Smooth accurate surfaces for layout, inspection or assembly.
- ✓ Built of fine-grade, special analysis semi-steel.
- ✓ Sixteen standard sizes, six inches thick — other sizes to order.
- ✓ Available with "Tee-Slots", or with grooving, scoring or machining for checking and assembly.
- ✓ Plates can be grooved and keyed so that two or more can be assembled into one large complete unit.

SEND FOR CATALOG Write today for catalog which includes complete information and prices on Challenge Surface Plates.

Challenge TRADE-MARK

THE CHALLENGE MACHINERY COMPANY
Office, Factories and Show Room:
Grand Haven, Michigan

If you write maker identify as IEN - 5783

B.F.Goodrich

TWAT TIRE AND WHEEL **ANALYSIS cuts industrial tire failures, saves you up to 50% on tire costs**

● What caused your last industrial tire failure? Overloading, oily floors, rough hauling surfaces—all possibilities—or was it the *tires themselves?* If so, chances are that with the *right* tire you can increase tire life—perhaps even double it. Like the equipment they carry, industrial tires are designed to do specialized jobs. Point is, get the specific tire and job together.

B. F. Goodrich has developed the Tire and Wheel Analysis Plan to help you do just that. Without obligation, a trained BFG man will study your materials handling operations and recommend the right tires for you to use. His advice will be impartial, for B. F. Goodrich makes, and BFG retailers sell, a complete line of industrial tires.

Use the tires designed for the job and you'll save as much as 50% on tire and wheel costs through greater materials handling efficiency, less expensive maintenance and repair time.

To find out more about this free B. F. Goodrich Tire and Wheel Analysis Plan, send in the coupon or call your BFG retailer. A special TW Analysis Plan is available for manufacturers of industrial handling equipment.

Always specify B.F.Goodrich tires when ordering new equipment

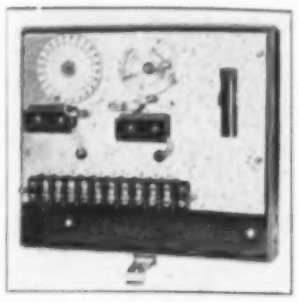
The B. F. Goodrich Co.
Department TW-56, Akron, Ohio.
Please send me:
☐ *Additional information* on your new Tire and Wheel Analysis Plan
☐ A free copy of your "Industrial Tire Guidebook".
Name _____
Title _____
Company _____
City _____ State _____

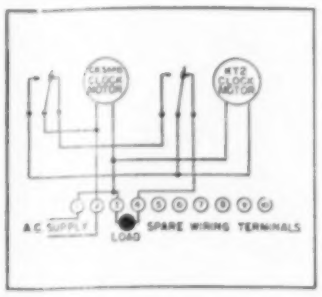
RESEARCH KEEPS B.F.Goodrich FIRST IN RUBBER

If you write maker identify as IEN - 5785

TIMING . . Double interval unit actuates and then controls duration

Source: PARAGON ELECTRIC CO.
1299 Adams St., Two Rivers, Wis.





Illustrated and described in Bulletin 5308

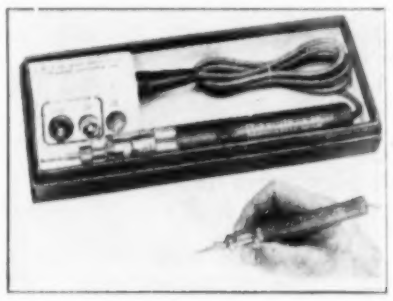
Repeating starts and duration of each active interval are controlled by this new double interval timer Series CR3MB-KT2. Typical applications are in sampling, reservoir pumping, dust arresting, chemical feed and boiler water pumping, cleaning intervals for filters. Contact capacity is 10 amp. on 110-volt ac. Assembly is in a steel housing measuring 10¼ by 4½ by 9 inches.

The two elements, each driven by its own synchronous motor, are mounted side by side. Type MB, to the left, is removable pin type design to start an active interval. Type KT2, to the right, is fan design to adjustably control the duration of the operation. A clip held container, to the right of the timer, holds extra dial pins. In operation, the Type KT2 dial makes one complete revolution each time it is energized by the Type CR3MB dial. The load circuit is closed for the interval set on the former.

If you write maker identify as IEN - 5786

TESTING . . Neon lamp, prods and connecting lead to check circuits

Source: DELTA ELECTRICAL SPECIALTY CO.
1454-58 E. Walnut St., Pasadena 4, Calif.



Glow indicates voltage

Circuitracer is a new tester to locate grounds, opens, shorts in dead or live circuits. It applies without a resistor on low voltage live circuits or with one that is part of the kit for high voltages. Overall range is from 2 to 600 volts. The neon lamp is carried at the end of the hand piece in full view of the operator. The unit is moisture proof.

Identify as IEN - 5787

Moldgloss A is a new Gulf Oil Corporation compound of graphite, petroleum oil and additives to spray the molds in high speed glass container forming machines. It also can be used as a concentrate or additive with straight mineral oils to make spray oils of comparably low concentrations of colloidal graphite for lubricating purposes.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5788

ALL-PURPOSE SLINGS

with new Roebling Tapered Sleeve Splice . . . stronger . . . cost less!

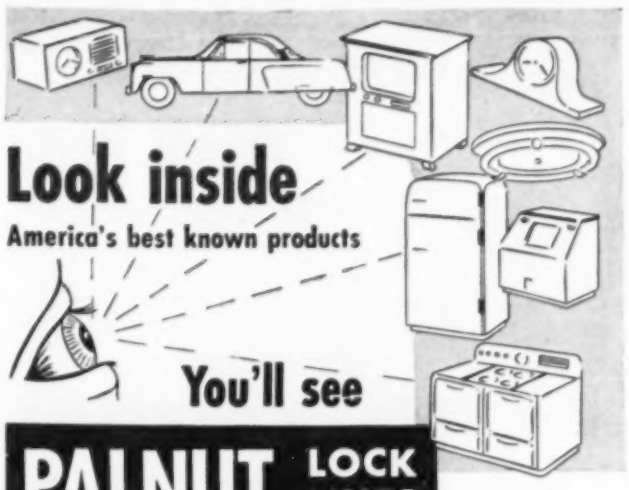
NEW ROEBLING All-Purpose Slings with the Tapered Sleeve Splice are delivered ready for the job. The unique rolled loops and tapered sleeve attachments develop the full strength of the rope . . . cost less than ordinary tucked splices . . . save "splicing your own".

Made of Roebling "Blue Center" Steel Wire Rope, All-Purpose Slings are unsurpassed for toughness and dependability . . . flexible and easy to handle . . . come in all standard lengths and sizes. Send for full information and for the free "Sling Data Book." John A. Roebling's Sons Corporation, Trenton 2, New Jersey.

A subsidiary of The Colorado Fuel and Iron Corporation

ROEBLING

If you write maker identify as IEN - 5789



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America's best known products

You'll see

PALNUT LOCK NUTS

TRADE MARK

used for

Quick, secure fastening at low cost

THE PALNUT COMPANY
59 Cordier St., Irvington 11, N. J.
In Canada: P. L. Robertson Mfg. Co., Ltd.
Milton, Ontario

Catalog, Samples on Request

If you write maker identify as IEN - 5790

AIR-MITE AIR CYLINDERS

SINGLE ACTING — DOUBLE ACTING

MICRO

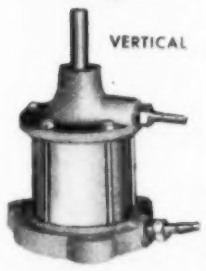
CLEVIS

Worth Their Weight in GOLDen Man-Hours

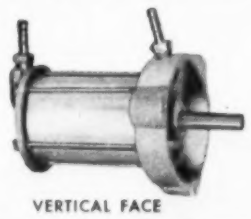
SAVE time, spoilage, cost . . . speed production . . . reduce fatigue . . . on all drilling, reaming, tapping and processing jobs. Available in 1", 1½", 2¼", 3", 4" and 5" diameters; stroke length optional. Single or double action; all mountings.

Write for complete catalog of Air Cylinders and Air Arbor Presses.

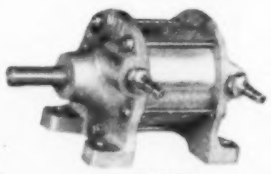
AIRMITE 4417-L West Carroll Chicago 24, Illinois



VERTICAL



VERTICAL FACE

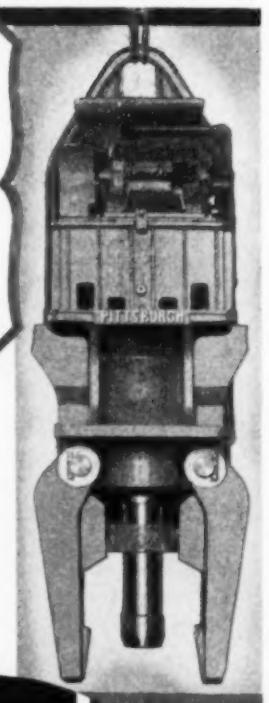


PARALLEL

If you write maker identify as IEN - 5791

PORTABLE INGOT STRIPPER

can do your job



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than conventional equipment

Write today for complete technical data

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316 FARMERS BANK BLDG., PITTSBURGH 22, PA. • PLANT AT GLASSPORT, PA.
DIVISION OF PITTSBURGH STEEL FOUNDRY CORP.

If you write maker identify as IEN - 5792

NOW! AN IMPROVED LOW COST CASTER

with Hardened Raceways Unbreakable Fork and Top Plate

SERVICE PRESSWELD CASTERS

STRONG! AGILE! QUIET!

Here, at last, is a truly efficient, light-weight caster in the low-cost field. Ideal for Dollies, Racks, Box Trucks and similar applications in the moderate capacity range. Many features usually found only in high price casters provide for years of trouble-free performance. Get PressWelds — and get SERVICE quality at low cost.

Write for sizes, capacities and low prices

INDOOR MILES Made EASIER and SAFER

SERVICE CASTER & TRUCK CORP.

Executive Offices: Albion, Michigan
Plants at Albion, Michigan & Somerville 43, Mass.

See your Classified Telephone Directory for Nearest Distributor

If you write maker identify as IEN - 5793

STOP WATER DAMAGE!

Sprinkler-Stopper

Approved by New York City Bureau of Standards and Appeals No. 932-49-SA.

Millions of dollars in water damage to stock and equipment is caused annually by sprinkler systems which continue to release floods of water after the fire is out! Even in the absence of fire, an unexpected mechanical failure can cause a sprinkler head to operate, causing tremendous, unnecessary water damage.

Now you can protect your plant with "Sprinkler-Stopper", a valuable device which, when inserted into the ring of a sprinkler head, instantly stops the flow of water, but leaves the rest of the sprinkler system operative. As the sprinkler control valve need not be turned off, the plant is still protected against fire until all danger is passed.

Already in use in hundreds of plants, warehouses and public buildings, a "Sprinkler-Stopper" placed beside each fire extinguisher is a vital piece of equipment. "Sprinkler-Stopper" will prove of tremendous value in the event of fire, or if a mechanical failure should cause a sprinkler head to operate prematurely.

"Sprinkler-Stopper" is manufactured in two styles, Model A and Model B, which will accommodate virtually all of the sprinkler heads in current use. Be sure to specify the type head in your plant when requesting information.

Write for free catalog to Department N3

SPRINKLER-STOPPER SALES COMPANY
15 W. Palisade Avenue Englewood, N. J.

If you write maker identify as IEN - 5795

SAWING . . Portable electric tool reciprocates blade, will pierce work

Source: BLACK & DECKER MFG. CO
715 E. Pennsylvania Ave., Towson 4, Md.

Takes five blade types

Circles, straight lines, irregular outlines can be started by piercing action of the blade in this new Utility jigsaw and then cut in wood. The saw will also cut ferrous and non-ferrous metals. It can be held in an operator's hands as shown in the illustration. It also mounts in an accessory table for bench application. A circle cutting attachment can be added to cut circles 2 to 13 in. in diameter.

Capacity is to ½ in. in soft wood, ⅜ in. in hard wood. The motor is universal design for operation on 110-volt input. Weight is 3½ pounds. Overall length is 8 in. and overall height is 7¾ in. including the blade.

If you write maker identify as IEN - 5796

CLEANING . . Powdered soap for hands contains a water softener

Source: CALGON INC.
1950 Hagan Bldg., Pittsburgh 30, Pa.

Dispenser is available

The company announces development of a new powdered hand soap that can be employed in any conventional dispenser. It flows freely, is free rinsing and is packaged in 5-lb. containers, six to a case. It is available also in 200-lb. drums.

If you write maker identify as IEN - 5797

RELAY . . Magnetic contact design single or double, with solenoid reset

Source: WESTON ELECTRICAL INSTRUMENT CORP.
641 Frelinghuysen Ave., Newark 5, N. J.

Sensitrol type

Model 723 is a new sealed relay assembly with single or double magnetic contacts, the former to make contact on either increasing or decreasing values. A built-in solenoid resets the armature to open circuit. It is available for 6-volt dc. service in standard design, can be specified for 110-volt ac. or other special values. Solenoid input is about ½ watt on dc., one watt on ac.

Sensitivity is maximum at 240-2 microamperes. Both ac. and dc. ranges can be specified to 500 volts. Contact capacity is to 100 ma. on 110-volt ac. or dc. Accuracy is within 5 per cent on dc., 10 per cent on ac. Outside magnetic fields do not affect operation of the new relay.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5798

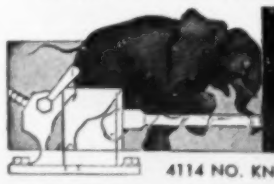
Cut Costs with MEAD MIDGET Air Clamps!

Horizontal and Vertical!

Pneumatic Cylinders

Both models deliver 80 lbs. pressure on a line pressure of 100 lbs. They'll save countless man-hours in assembly operations involving welding, riveting, bolting, etc. Advantages over mechanical clamps: 1. Any number can be operated by single master valves. 2. Easily installed in cramped corners. 3. Equal ram pressure at any stroke point.

Send for new Mead AIR POWER Catalog, describing our line of Air Clamps, Air Vises, Air Presses, Work Feeders, Valves, Controls, etc.



MEAD SPECIALTIES COMPANY

4114 NO. KNOX AVENUE, DEPT. EA-53, CHICAGO 41, ILL.

If you write maker identify as IEN - 5799

YOU CAN DO IT FASTER with HANSEN ONE-HAND TACKER

MODEL T-1 TACKING TABLE TOPS

Only ONE of 1001 Uses

FASTER! With its zip-zip compound leverage action, Hansen saves time in all types of tacking and fastening. Fast, easy one-hand operation. Tacks fast as you grip.

BETTER! Balanced design insures accurate, precision driving. Powerful action drives each staple firmly and neatly in place for improved quality and increased holding power. It is adaptable to a wide variety of uses.

AT LESS COST! Hansen saves *time, steps,* and *materials* — operates faster — saves back-tracking — ready for instant, continual use.

(MODEL T-3-4 HANSEN TACKER)

36 DIFFERENT MODELS
80 STAPLE SIZES

REQUEST BOOKLET TODAY

A.L. HANSEN MFG. CO.

5051 RAVENSWOOD AVE. • CHICAGO 40, ILLINOIS

If you write maker identify as IEN - 5800

Announcing...

General Plate CONFLEX Copper-Clad HARDENABLE STEEL

For High Conductive Electrical Spring Parts at Low Cost

Here's a new General Plate Composite Metal — *CONFLEX copper clad on hardenable medium carbon steel* — that can solve many of your electrical spring problems.

Comparable to beryllium copper in many respects, its primary advantage is *lower cost.* In addition, *CONFLEX copper-clad hardenable steel* has greater stiffness than hardenable copper alloys.

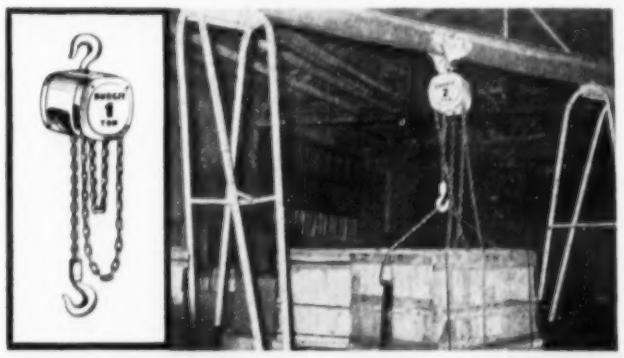
General Plate single or double copper-clad hardenable steel offers high electrical and thermal conductivity. Thickness ratios can be produced to give higher electrical conductivity than hardenable copper alloys when equal thickness of materials are compared.

CONFLEX copper-clad hardenable steel can be used advantageously for such applications as fuse clips, flat springs and electrical connectors. In applications, such as pen and pencil clips, the layer of copper provides excellent surface for electro-plated finish.

Write for complete information and Catalog PR700 which describes General Plate products.

METALS & CONTROLS CORPORATION
GENERAL PLATE DIVISION
75 FOREST STREET, ATTLEBORO, MASSACHUSETTS

If you write maker identify as IEN - 5801



LIGHT TO CARRY . . . EASY TO OPERATE

Want a hoist you can carry to the job? Then get a portable, spur geared 'Budgit' Aluminum Chain Block. The ¼-ton size weighs only 29 pounds. Want to lift 500 pounds with a 25-pound hand chain pull? You can do it with the ¼-ton 'Budgit'. The 'Budgit' Aluminum Chain Block is a knock-about hoist — easy to carry, hang up and use wherever spot lifting must be done in double-quick time. It gives you fast, smooth, effort-saving efficiency plus the complete safety of a big automatic load brake and over-capacity hooks and load chain. It's the toughest lightweight chain block ever built. Available in ¼, ½, 1 and 2-ton sizes. Check your "Shaw-Box" Distributor for details or write for Bulletin No. 398.

'Budgit'® CHAIN BLOCKS

MANNING, MAXWELL & MOORE, INC.
Muskegon, Michigan

Builders of "Shaw-Box" and 'Load Lifter' Cranes, 'Budgit' and 'Load Lifter' Hoists and other lifting specialties. Makers of 'Ashcroft' Gauges, 'Hancock' Valves, 'Consolidated' Safety and Relief Valves, 'American' Industrial Instruments, and Aircraft Products

If you write maker identify as IEN - 5802

Don't just write— Specify JENKINS Gold Seal Tape

FRICTION . . . RUBBER

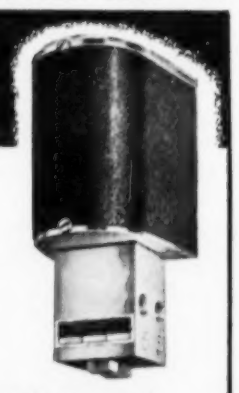
. . . AND SAVE!

Every roll of Jenkins Gold Seal Tape goes further. It tapes up tight to the last inch . . . doesn't peel, dry out or ravel . . . one thickness insulates . . . sticks to the job under toughest conditions of heat, cold, moisture. Single rolls or 10-roll containers. Jenkins Bros. (Rubber Div.), 100 Park Ave., New York 17.

MADE BY JENKINS BROS. • MAKERS OF FAMOUS JENKINS VALVES

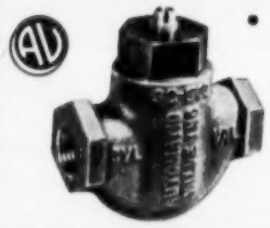
If you write maker identify as IEN - 5803

Solenoid VALVES



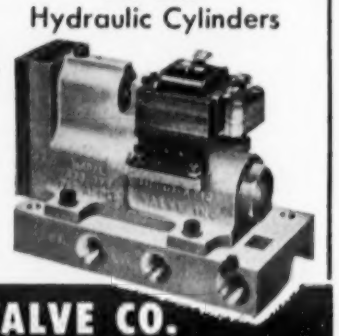
PILOT VALVES
3-WAY 4-WAY
For operating Master Valves and Small Cylinders

• • •



Speed Control VALVE
Controls speed of Air and Hydraulic Cylinders

3-Way and 4-Way VALVES
Pilot Operated
Sizes ¼"—⅜" ½" and ¾"



Write for Bulletin

AUTOMATIC VALVE CO.
37421 GRAND RIVER AVE., FARMINGTON, MICH.

If you write maker identify as IEN - 5804

NO DELAY!

...use PANNIER National Rubber Type & Holders

"pinch" the exclusive dove-tail winged flange type into matching holder slot and there it stays without springs, wires or pins until you remove it. It can't fall out or shake loose.

• You lose no time waiting for dies or inserts to mark rush jobs when you use Pannier National Interchangeable Rubber Type and Holders. You make your own set-ups as you need them. Just

Both type and holders are available for every mill and industrial need. Ask for Bulletin NT-2.

OFFICES:
Chicago • Los Angeles • Youngstown
Philadelphia • Jacksonville

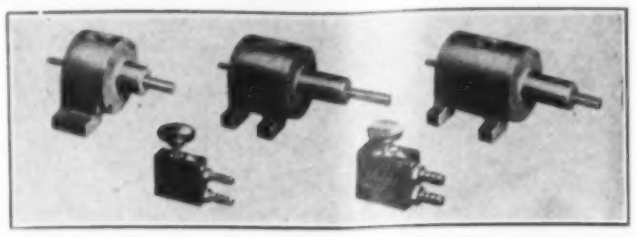
THE PANNIER CORPORATION
101 Pannier Building
Pittsburgh 12, Pa.

Export Department: BESSEMER BUILDING, PITTSBURGH, PA.

If you write maker identify as IEN - 5805

CLAMP . . Pneumatic design for jigs, fixtures, 1, 2, 3-in. stroke

Source: MEAD SPECIALTIES CO.
4112-16 N. Knox Ave., Dept. CV-38, Chicago 41, Ill.



Foot mounting design

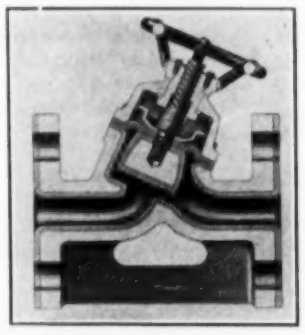
Three new clamps, piston and cylinder design, have been added to the company's line, previously described IEN-10694-42. Cylinder bore measure 3 inches. Stroke is 1, 2 and 3-inches. Pressure on the piston rod is approximately seven times the air line pressure. Air connection is at the rear. A return spring is built into the assembly to move the piston back to its starting position when pressure is relieved.

The company also announces the addition of two new push button valves for connection to ¼ and ⅜-in. hose lines. These valves apply and release pressure for the cylinder operation.

If you write maker identify as IEN - 5806

VALVE . . Diaphragm sealed disc to handle corrosive or abrasive fluids

Source: FARRIS FLEXIBLE VALVE CORP.
550 Commercial Ave., Palisades Park, N. J.



Stem shows position

Lined assembly, as shown in the illustration, or unlined design, are available in the company's new Series X-V disc type diaphragm sealed valve. Sizes range from ½ to 4 inches. The valve is made with a body of cast iron, stainless steel or Hastelloy. When it is lined, the same material is employed as in the diaphragm and disc.

The diaphragm can be made of rubber, neoprene, Kel-F or Buna-N. The disc is made of rubber, neoprene, stainless steel, Kel-F or Hastelloy. Connections can be specified flanged, as shown in the illustration, or screwed or union design. The diaphragm mounts between the stem and the disc and is secured in the valve bonnet to seal against leakage from the line through the bonnet. In the case of emergency, the valve can be closed on a broken diaphragm.

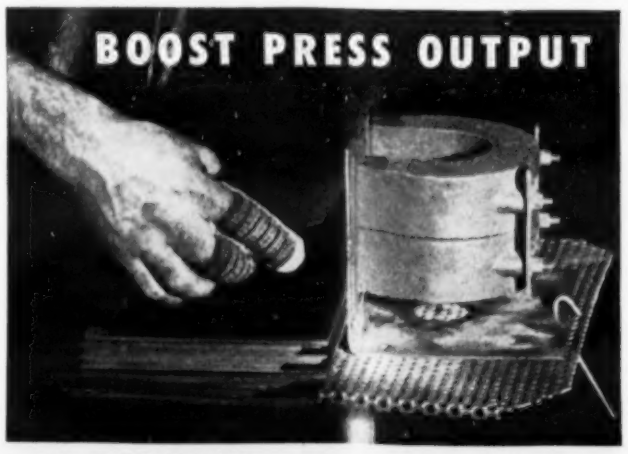
Identify as IEN - 5807

Lawnmowers will soon be rolling around on Kralastic molded plastic, a Naugatuck Chemical material. United States Rubber Company tells us that Newark Stove is now producing the wheels for the 1953 Craftsman rotary mower. It will not crack when bounced over rocks, dragged over concrete pavements, bumped into walls. It is molded in two sections, then riveted together over a rubber tire. A part of the inner side of one section is the axle housing.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5808

BOOST PRESS OUTPUT



with DINGS Magnetic Sheet Floaters

- Non-electric Dings Sheet Floaters separate stacked steel sheets automatically so they're easily grasped by operator for faster feeding
- Prevent feeding of doubles – protect dies
- Handle irregular sizes, odd shapes
- Protect painted and finished surfaces
- Pay for themselves in 2 to 3 months time

PUT Dings Sheet Floaters on trial in your shop. Money back in 30 days if you're not satisfied – write DINGS MAGNETIC SEPARATOR CO., 4755 W. Electric Ave., Milwaukee 46, Wisconsin, for details today.

SF 153

DINGS Magnets

If you write maker identify as IEN - 5809

ONE PAIR Guaranteed TO OUTWEAR TWO PAIRS OF CANVAS GLOVES!

- Durable plastic dots double the wear, cut your work-glove costs at least 40%!
- Rugged . . . yet soft, flexible, comfortable!
- Phenomenal results reported by big industrial users!

Write for full information and factual proof of "Plastic-Dot" guaranteed performance!

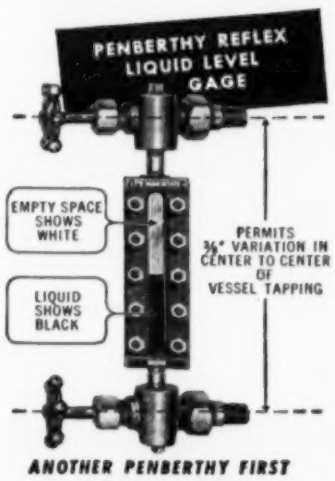
Riegel "PLASTIC-DOT" WORK GLOVE

RIEGEL TEXTILE CORP. • 260 MADISON AVE. • N. Y. 16, N. Y.
Atlanta • Boston • Chicago • Dallas • Detroit • Jackson (Miss.) • Los Angeles • Pittsburgh

If you write maker identify as IEN - 5810

PENBERTHY "Floating Shank"

Saves Time and Money in Gage installation



ANOTHER PENBERTHY FIRST

A feature available only on Penberthy drop forged steel (and alloy) gage valves, the "floating shank" automatically compensates for as much as ⅜" variation in the center-to-center distance of the vessel tapping. This saves time and cuts the cost of gage installation . . . eliminates stresses often induced during mounting. Penberthy "floating shank" is available at slight additional cost. It will pay you well to specify "floating shank" on your next gage order.

Ask for Catalog 35

PENBERTHY INJECTOR COMPANY
DIVISION OF THE BUFFALO-ECLIPSE CORPORATION
Established 1886 DETROIT 2, MICHIGAN Canadian Plant, Windsor, Ont.

If you write maker identify as IEN - 5811

with VIBROTEST

TESTING your motors and other electrical equipment with Vibrotest not only saves hard manual labor; but also assures you of accurate readings at the touch of a button. Vibrotests are fully portable, rugged, and thoroughly dependable. Numerous Vibrotest Models to choose from—many with volts and ohms ranges in addition to megohm ranges. Act now to get easier, better, faster insulation resistance testing.

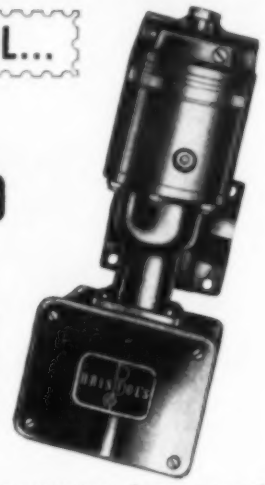
- Push-button operation
- No Cranking
- No Leveling
- Instant Action

Write for Bulletin 2A

ASSOCIATED RESEARCH, Incorporated
Pioneer Instrument Since 1926
3762 West Belmont Avenue, Chicago 18, Illinois

If you write maker identify as **IEN - 5812**

what's new at BRISTOL...



New Bristol Series 650 PNEUMATIC TRANSMITTERS

For use with BRISTOL MINIATURE RECORDERS, INDICATORS AND CONTROLLERS give you:

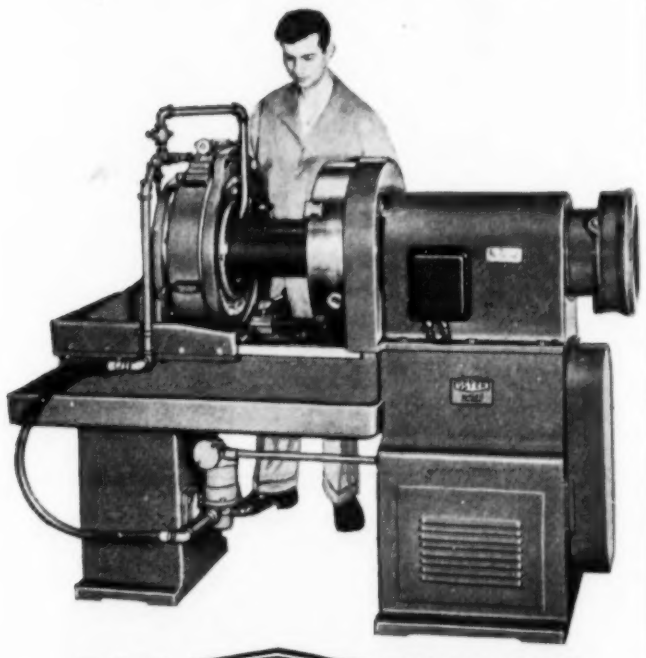
- **BRISTOL WORLD-FAMOUS MEASURING ELEMENTS**—the time-tested measuring elements with wide angle travel for positive action.
- **COMPLETELY RELIABLE AND TROUBLE-FREE TRANSMITTING UNITS**—sensitive to extremely small changes in the measured quantity.
- **SIMPLE TRANSMITTING MECHANISM**—frictionless with only one pivot, can be installed in any location—indoors or out.

Available in a wide selection of pressure, vacuum, temperature, liquid level, flow, and differential pressure ranges. Write today for free booklet, No. A105. The Bristol Company, 107 Bristol Road, Waterbury 20, Conn. 3.20

BRISTOL *THE DEPENDABLE GUIDEPOST OF INDUSTRY*

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

If you write maker identify as **IEN - 5813**



THE OSTER "WILCO" IS FAST AND FLEXIBLE

It threads a wide range of pipe without die-head change

MAINTENANCE threading can be a headache. You get a 4" pipe, a 2" bolt, a 6" pipe . . . different sizes, different lengths. But there's a cure for maintenance threading headaches . . . the Oster "Wilco" . . . a machine that gives you speed and flexibility at a price that's easy-on-the-budget.

You can change pipe and bolt sizes in seconds with an Oster "Wilco" because just one die-head handles them all. You thread pieces as short as 8" without a nipple chuck because the Oster "Wilco" front jaws are offset to take them. Regardless of the pipe or bolt size, the Oster "Wilco" threads and cuts off at the right speed because of its two speed motor. The Oster "Wilco" threads 4" pipe in 56 seconds and cuts it off twice as fast; it threads 1" pipe in 12 seconds.

The Oster "Wilco" is flexible, efficient, and fast. Its price is moderate . . . it's the one real answer to high quality, low cost maintenance threading.

OSTER Your Oster Distributor can help you solve your pipe threading problems. He offers sound recommendations, speedy delivery, and dependable service . . . and he stands behind the products he sells. Contact him for money saving facts, or if you don't know who he is, write us for his name and address and a free factual booklet about the Oster "Wilco".

THE OSTER MANUFACTURING CO.
Main Office and Factory
2053 East 61st St. • Cleveland 3, Ohio

1893 • CELEBRATING 60 Years Leadership in the Threading-Industry • 1953

If you write maker identify as **IEN - 5815**

VALVE . . Lubricated service cock for gas lines is tamper proof design

Source: ROCKWELL MFG. CO.
624 N. Lexington Ave., Pittsburgh 21, Pa.

Takes padlock

New cock is available in sizes from ¾ to 1½ in. for working pressure to 125 pounds. It is fitted with two grooves connected to annular grooves, above and below the plug ports, to carry a film of lubricant to the seating surfaces for positive seal when the cock is either open or closed. O-rings at the upper and lower ends of the plug also prevent leakage.

A drive screw in the stop collar, on the upper shank end, prevents removal of the collar. A blind drive pin in the adjustment collar, at lower end of plug, holds this collar secure.

If you write maker identify as **IEN - 5816**

WIRE ROPE . . 3 to 8 strands assembled on a thermoplastic core

Source: JONES & LAUGHLIN STEEL CORP.
455 Gateway Center, Pittsburgh 30, Pa.

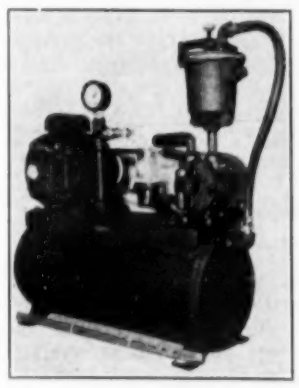
Polyvinyl plastic

Plastic Core designates a new wire rope particularly for use in drilling wells. The rope is made of 3 to 8 steel strands each containing from 7 to 41 steel wires. Smallest rope is ⅜ in. in outside diameter. The largest, to specification, can be several inches. The core is not affected by acids, caustics and other sub-surface conditions that tend to destroy a fiber core. The plastic material retains its resiliency. Joints in the core, made by heating the material, are homogeneous. The core will not absorb water.

If you write maker identify as **IEN - 5817**

PUMP . . Rotary vacuum assembly with receiver tank, motor and filter

Source: SQUIRE-COGSWELL CO.
4138-42 N. Kedzie Ave., Chicago 18, Ill.



Leiman pump

Overall length of this new utility vacuum assembly is about 24 inches. It produces vacuum to 0.1 in. of water pressure in a range of capacities from 3.6 to 40 cfm. The pump is rotary oil sealed design and is suited to run continuously. It can be provided with a control switch that will shut it off when vacuum in the tank has reached the required point. Equipment includes a vacuum gage, vacuum relief valve and muffler.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 5818**

DE WALT is a "Jack-of-all-cuts" for pattern shop use!

More than just a "jack-of-all-cuts," De Walt® is a *master* of every one... making each fast and accurately!

You'll find De Walt the most versatile, the most easily adaptable power saw for *any* cutting purpose—whatever it is—especially in a pattern shop.

Wherever they're used, De Walt Power Saws streamline cutting operations... increase production... decrease costs. Write for illustrated catalog to: De Walt Inc., Dept. IEN-5, Lancaster, Pennsylvania.

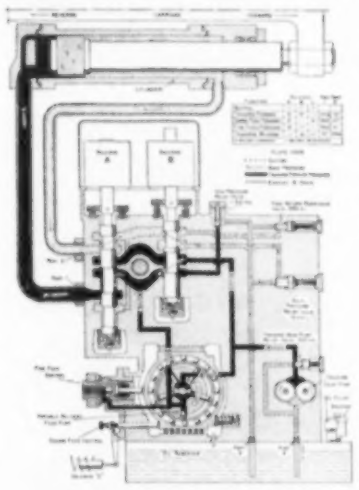
De Walt Inc. Lancaster, Pa.

DE WALT
POWER SAWS

Subsidiary of **AMERICAN MACHINE & FOUNDRY COMPANY,** New York

If you write maker identify as **IEN - 5819**

ANY-FEED Oilgear Power Unit



For machine tool and other straight-line feeds

An amazing little fluid power feed pump for practically any machine tool or straight-line feed installation you can think of. It embodies the *Any-Feed* Oilgear Fluid Power unit with a 20:1 range and rapid traverse as high as 265:1 over feed rate. It provides undeviating precision day in and day out once the feed rate is set.

It installs *into* your assembly easily, or mounts nearby or remotely. Yet control of the many possible functions is found in the electric pushbutton station; or partial or completely automatic operation is available. It affords complete operating safety for all action is instantly neutralized in case of accident. All parts are completely and easily accessible. The design is simple; you mount, connect two pipes and control wires. Write for descriptive Bulletin 44200 now while you think of it. THE OILGEAR COMPANY, 1567 West Pierce Street, Milwaukee 4, Wisconsin

If you write maker identify as **IEN - 5820**

ENGINEERED SIMPLICITY

wheelco CAPACILOG strip chart RECORDER

For operational accuracy and mechanical stamina, use the Capacilog Recorder in the measurement and recording of AC and/or DC voltage, amperes, wattage and other electrical values.

Design simplicity expedites cleaning and eliminates maintenance problems. A plug-in chassis facilitates quick replacement or change-over.

BULLETIN C2 WILL BRING YOU FACTS WORTH HAVING IN YOUR FILE

BARBER COLMAN — instrumentality

wheelco instruments division
BARBER-COLMAN COMPANY
1204 ROCK ST. • ROCKFORD, ILLINOIS

If you write maker identify as **IEN - 5821**

THE *Workhorse* OF SMALL GRINDERS

Aro Short Grinder Model 7149, 17,000 R.P.M.

ARO does it *faster* . . . at *lower cost!*

That's why Rohr Aircraft at San Diego—and hundreds of other progressive plants today — prefer ARO. Complete line grinders for jet engines . . . also heavy duty vertical and horizontal grinders of all types. Write for new catalog 60. The Aro Equipment Corp., Bryan, Ohio.
Aro Equipment of Canada, Ltd., Toronto, Ont.

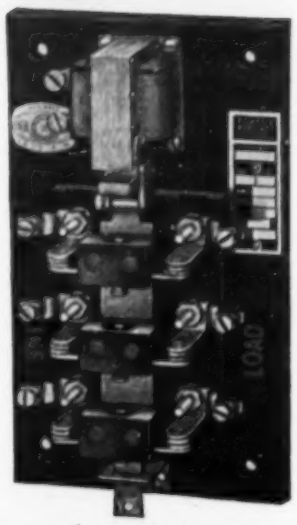
ARO AIR TOOLS

Also . . LUBRICATING EQUIPMENT . . HYDRAULIC EQUIPMENT . . AIRCRAFT PRODUCTS . . GREASE FITTINGS

If you write maker identify as IEN - 5822

NEW ZENITH MAGNETIC SOLENOID CONTACTORS

★ SOLENOID OPERATED
★ FINE SILVER CONTACTS
★ SIMPLIFIED WIRING



TYPE SC 33

This ZENITH contactor is built to withstand the severe service demanded by loads based on Type-C lamps.

It is designed on the straight-line principle, with the solenoid being connected directly to the contact bar.

The advantage of this method of construction is its easy access to any part for quick inspection or service, without disturbing other parts.

Models: Size 1 — 25 amps. Size 2 — 50 amps.

Either size can be supplied in any number of poles.

SEND FOR FREE CATALOG

This big, illustrated catalog contains all the newest items in automatic control equipment made by Zenith! Write now for your Copy!

ZENITH ELECTRIC CO.
146 W. WALTON ST., CHICAGO 10, ILLINOIS

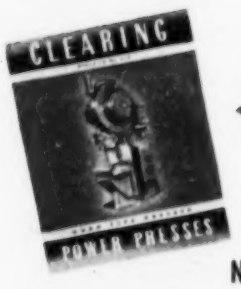
If you write maker identify as IEN - 5823

Clearing Horn-Type Presses

A Press of all-round usefulness

30 to 200 tons capacity

60-ton horning press



New Catalog —
A free copy of the new catalog on Clearing horning presses will be sent to you on request. Write on company letterhead.

CLEARING MACHINE CORPORATION • 6491 WEST 65TH STREET • CHICAGO 38, ILLINOIS
HAMILTON DIVISION • HAMILTON, OHIO

If you write maker identify as IEN - 5824

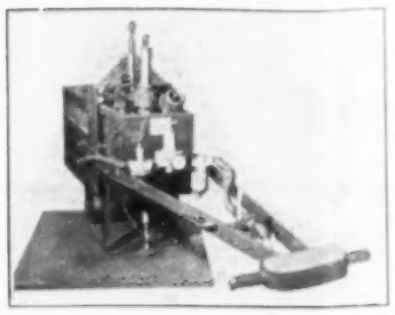
Find out how to Cut Water Costs with a Deming Turbine Pump Send for Bulletin 4700-51

THE DEMING CO.
521 BROADWAY
SALEM, OHIO

If you write maker identify as IEN - 5825

DRILLING . . Roller mounted machine feeds down or up for holes to 2¼ inch

Source: GUIBERT STEEL CO.
P. O. Box A-1837, Pittsburgh 30, Pa.



Rolls to the job

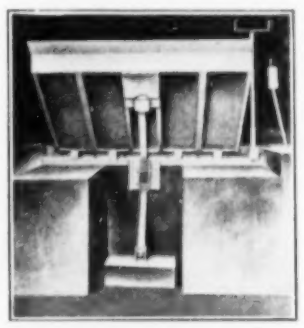
New design has been added to the Togglebug drilling machine, previously described IEN-7604-48. The machine is now available with a pneumatic motor for locations where electric current is not readily available. The drive can be throttled to control rotating speed in a range from 150 to 600 rpm. at the spindle. Operation is normal on 100-lb. pressure with air consumption at 150 cfm. at maximum load. A tachometer is mounted on the machine housing facing the operator. He rides the extended feed lever, shown to the right, to employ his weight for the feed pressure.

The spindle is a double end unit equipped with a No. 4 Morse taper. It is designed so tools can be applied to face up or down. The feed lever, on which the operator is seated, pivots interchangeably to suit the feed direction. Feed pressure is applied through a toothed yoke that can be released to locate the spindle at a desired point in its 12-in. overall stroke. The feed is engaged through a toggle assembly in the housing. Coolant and throttling controls are located in front of the operator's position.

If you write maker identify as IEN - 5826

ELEVATOR . . Hand operated ramp raises and lowers in shipping platform

Source: KARL A. HERMAN CO.
410-14 Fuller Ave. N. E., Grand Rapids 5, Mich.



Locks in "up" position

Side adjustment, through 10 in., is provided for this new platform ramp, in addition to movement up and down to suit varying truck floor heights. The adjustment is by turning a crank engaging a rack and pinion to "spot" the ramp laterally with a truck that has backed up to it. Then a lever is moved to lower the ramp to the truck floor against the action of the gear connected counterweight. Two sizes measure 48 by 72 in. and 60 by 72 inches. Capacities are 10 and 15 ton.

Identify as IEN - 5827

Bright colors, distinctive shapes make up Allegheny Plastic's line of permanent identification tags for pipe lines, valves. The tags are made of Vinylite plastic with the printed face covered by transparent plastic in grease and oil proof construction. Permanent, no-smooch, non-flammable, with an attachment hole near the edge. Want samples?

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5828

– and now TAPER-LOCK SPROCKETS

New "off-the-shelf" availability is now brought to roller chain drives. Taper-Lock bushings are available in sizes for most needs—no more boring sprockets to fit shafts. No turning and grinding of shaft necessary—Taper-Lock grips with firmness of a shrunk-on fit. Dodge roller chain is made to highest quality standards.

Complete range of B-type steel sprockets and roller chain available from stock — ½" to 1¼" pitch. For details write for Bulletin A-624.

DODGE MFG. CORPORATION
600 Union Street, Mishawaka, Ind.

– and Dodge Roller Chain

DODGE
of Mishawaka, Ind.

If you write maker identify as IEN - 5829

for all stud threads and stainless steel applications . . .
LEADING INDUSTRIALS
now standardize on

C-5 "HI-TEMP" THREAD COMPOUND

√ speeds up dis-assembly time!
√ prevents stud breakage!
√ eliminates pitting of stainless steel!

NO MORE FROZEN OR GALLED STUDS EVEN AT 1800° F

Stud breakage, long an expensive maintenance problem has been solved by the leading industrials who have standardized on Fel-Pro C-5 "Hi-Temp" as an anti-seize coating for all stud threads and stainless applications.

Fel-Pro's exclusive Colloidal-Copper formula allows for easy separation and reduces stud breakage of threaded assemblies after long exposure to extreme temperatures. It eliminates galvanic pitting of stainless and alloy steel even where dissimilar metals are joined.

Conduct your own tests with C-5 "Hi-Temp" at our expense. See how it can lick your toughest thread breakage problems . . . Write for FREE Sample and complete data sheet TODAY!

FELT PRODUCTS MFG. CO.
1523 Carroll Ave., Chicago 7, Illinois

6163 IENR

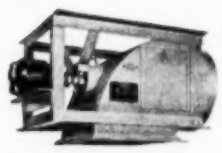
If you write maker identify as IEN - 5830

High Hats are out of date

now— it's the Homburg

High Chimneys, too, are out of date

now— it's the WING DRAFT INDUCER



Why? Because your heating plant can have positive, adequate, uniform draft without the need for tall, unsightly, expensive stacks. Unlike variable chimney draft, the Wing Draft Inducer gives perfect motorized draft in any weather. It cuts fuel costs by giving higher CO_2's. Smoking is reduced or eliminated. The capacity of your boiler plant is increased.

Write for a copy of Bulletin I-52

L. J. Wing Mfg. Co. 160 Vreeland Mills Road Linden, New Jersey

If you write maker identify as IEN - 5831

PROFITABLE PRODUCTIVE ECONOMICAL

THE SUREWELD® PORTABLE D-C WELDER

The Sureweld Gas Driven D-C Welder is small enough, portable enough to go wherever the operator can go. And that's why it's so profitable, productive, economical. Delays, expenses, interruptions normally a part of on-the-job welding are eliminated. More time is spent welding. More welding is done. And the savings are usually enough to repay its cost in a few short weeks. Its capacity is ample for 85-90% of on-the-job welding. We'll be glad to demonstrate in your shop what owners say is the most useful welder they ever had. Or to send a copy of bulletin NH-121. Write today.

Copyright 1953, National Cylinder Gas Company

NCG® National Cylinder Gas Company
840 N. Michigan Ave., Chicago 11, Illinois

If you write maker identify as IEN - 5832

When is a lathe too big?

A lathe is too big when:

SHELDON CHICAGO

(1) When it is too large and complex for any but the most experienced to operate safely.

(2) When the power cost is excessive for the tool load.

(3) When the tool investment is out of all proportion to the requirements.

(4) When it is too cumbersome and too slow.

(5) When it takes up floor space, heat and light in which output could be multiplied with smaller machine tools.

Modern Sheldon Precision Lathes eliminate these excessive costs and loadings on many everyday operations—leaving far more on the profit side. 10", 11" and 13" Swing. "Zero Precision" Tapered Roller Bearings. Increased collet capacity.

Write for Catalog

SHELDON MACHINE CO. Inc.

4208 N. KNOX AVENUE • CHICAGO 41, ILLINOIS, U. S. A.

If you write maker identify as IEN - 5833

NEW! HEAVY DUTY

CHELSEA FANS

POWER LINE CHELSEA FANS

—for industrial applications

DIRECT DRIVE OR BELT DRIVE

NON-OVERLOADING PROPELLERS

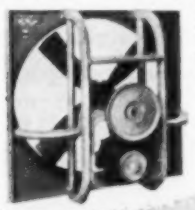
SOLVE YOUR VENTILATING PROBLEMS with Chelsea's new heavy duty airfoil type exhaust fans. For use in exhausting, duct work, filter installations, range or vat hoods, penthouse units, paint spray booths, where static pressures are encountered.

WRITE FOR NEW CHELSEA CATALOG No. 400 including detailed information on type, size, specifications, engineering data and installation recommendations. 30 types and over 200 sizes. Please address requests to Dept. 1-5.

FOR FACTORIES, FOUNDRIES, MINES, MILLS
—totally enclosed ball-bearing motors

● **TYPE PLF POWER LINE DIRECT DRIVE** — 16" to 48" in all H.P. ratings. Square frames for easy installation.

● **TYPE PLDX POWER LINE DUCT BOOSTER**—Motor external to Air Stream. 16" to 48" in all H.P. ratings.



● **TYPE PLBD POWER LINE BELT DRIVEN** — 24" to 48" in all H.P. ratings. Square frames for easy installation.

● **TYPE PLDU POWER LINE AIR BLASTER**—For spot cooling — available on pedestal. 18" to 42" in all H.P. rating.

Certified Ratings

PROPER VENTILATION IS AN INVESTMENT!

Look for this Symbol of Quality . . . →

← Look for this Seal of Certified Ratings

CHELSEA

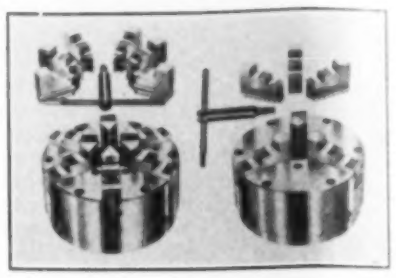
CHELSEA FAN & BLOWER CO., Inc.

PLAINFIELD, NEW JERSEY

If you write maker identify as IEN - 5835

CHUCK . . Universal scroll design with independent centering adjustment

Source: BUCK TOOL CO.
2013-17 Schippers Lane, Kalamazoo, Mich.



Accurate to 0.0005 in.

New size, for work to 8 in. in diameter, has been added to the company's Adjust-Tru 3 and 6-jaw scroll chucks, previously described IEN-11292-50. Application is on lathes, dividing heads, grinding machines, screw machines.

Work is gripped by turning a wrench in any of several socket openings around the chuck body. Independent centering action is obtained by applying the same wrench in additional sockets located at 90-deg. intervals around the body. Turning these sockets sets the chuck body over as required on its adapter. Once set, the position will hold for a run of duplicate work.

If you write maker identify as IEN - 5836

LUBRICATING . . Molybdenum disulfide grease for aircraft use

Source: ALPHA CORP.
177-181 Hamilton Ave., Greenwich, Conn.

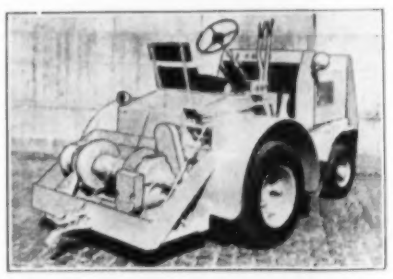
Practically no carbon residue

Molykote Type U is a new grease consistency mixture of powdered molybdenum disulfide in a polyalkylene glycol carrier. The new material is suited for extreme temperature application as in aircraft. It is particularly useful for rubber shaft seals rotating at speeds as high as 8,000 rpm. Normal temperature range is between minus 40 and plus 400 deg. F. Applications can be made to 800 deg. F. in which case the carrier evaporates leaving the powder impregnated on the surface to maintain satisfactory lubrication.

If you write maker identify as IEN - 5837

TRUCK . . Winch attachment for company's Super-Huskie tractor

Source: MERCURY MFG. CO.
4132 S. Halstead St., Chicago 9, Ill.



The driver works it

A take-off from the tractor engine is employed to drive a new attachment winch the company has developed for its Super-Huskie tractor. The frame on which the winch is assembled is welded to the tractor frame. The winch develops a line pull of 15,000 pounds. It is controlled by levers at the driver's position. A standard coupling is secured to the rear of the frame.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5838

Check Temperatures

Instantly... Accurately with *Alnor* TYPE 1500 PORTABLE PYROMETER

Wherever temperature readings are required—on the production line, in the laboratory or in the field—this sturdy precision instrument can bring you instant, accurate results.

Here's Why

It's Fast . . . in operation and quickly read. Precision movement designed to laboratory standards. Direct reading scale face is easily understood—no slide wires or conversion tables necessary.

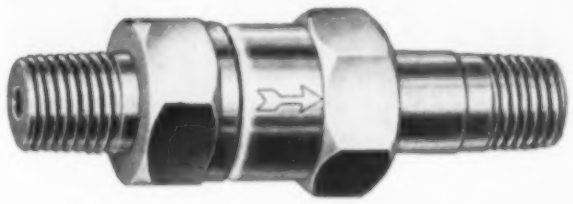
It's Accurate . . . consistently to within ¾ of one percent under almost all variable conditions. Sturdy, protective case assures continued accuracy in toughest portable service. Ten scale ranges available, from 0-400° to 0-3000° F. Equivalent Centigrade scales available at no extra cost.

It's Portable . . . compact size, 6½"x6"x3", and light weight make this pyrometer highly portable and easy to use anywhere. Write today for complete details and prices. Illinois Testing Laboratories, Inc., Room 517, 420 N. La Salle Street, Chicago 10, Illinois.

Send for Bulletin on 1500 Pyrometer.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

If you write maker identify as IEN - 5839



Assure positive air control with Schrader check valves

Check valves can deliver the correct cycle in a pneumatic control—or any of a hundred different uses.

Air can flow in one direction only through a Schrader Check Valve. Positive sealing action and long service are assured by the large seating area between the metal check and an oil resistant washer. All metal parts are brass, or are heavily plated.

Details on Schrader Check Valves and all Schrader Air Control Products are in the Schrader catalog. Send for your copy today.

A. SCHRADER'S SON

Division of Scovill Manufacturing Company, Incorporated

458 Vanderbilt Ave., Dept. D-47, Brooklyn 38, N. Y.

If you write maker identify as IEN - 5840

which **SOLID TIRE** for your product?

Monarch cushion tires of tough, wear-resisting stock have high capacity for absorbing shock and cushioning fragile loads over rough surfaces; excellent for high lift stability.

Monarch industrial tires are supplied on wheels by a majority of wheel and hand truck manufacturers.

For applications requiring extra traction, this tire is the first in its field.

Designed for low ton mile cost, this tire is particularly efficient on high lifts where sway is a factor.

The groove tire, used primarily on large industrial trucks and trailers, rounds out the complete Monarch line of solid industrial tires.

MONARCH makes the complete line of solid industrial tires

THE **MONARCH** RUBBER COMPANY

201 LINCOLN PARK • HARTVILLE, OHIO

SPECIALISTS IN INDUSTRIAL SOLID TIRES AND MOLDED MECHANICAL RUBBER GOODS

If you write maker identify as **IEN - 5842**

The Original...

Fafnir Wide Inner Ring Bearing with Self-Locking Collar and Mechani-Seals

A Time-Tested and Proven Feature of Fafnir Ball Bearing Power Transmission Units

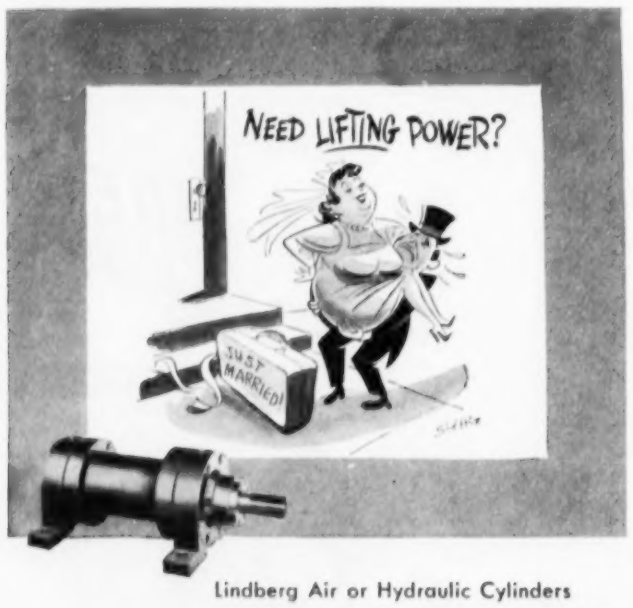
Counterbored, eccentric cam, mated construction of collar and inner ring assures positive locking action without set screws, lock nuts or adapters

FAFNIR
BALL BEARINGS

Most Complete Line in America

THE FAFNIR BEARING COMPANY, NEW BRITAIN, CONN.

If you write maker identify as **IEN - 5843**



Lindberg Air or Hydraulic Cylinders provide dependable, low cost power for lifting, forcing, pulling, pressing, pushing and clamping. Ask for bulletin No. 701, "Lindberg Hydraulic Cylinders" . . or No. 731, "Lindberg Air Cylinders."

***LINDBERG* CYLINDERS** *AIR HYDRAULIC*

Lindberg Engineering Company, 2481 W. Hubbard St., Chicago 12, Ill.

If you write maker identify as **IEN - 5844**

Cut tank maintenance costs!

SPRAY HEAVY-WEIGHT PROTECTIVE MATERIALS *with* VERSATAL PUMPS!

- Air Operated Versatal Pumps deliver material direct from original containers!
- Pump through hoses up to 300' long—drums stay on the ground!
- Handle heaviest materials even in cold weather!
- Speed, Simplify, Cut Cost of material application!

Tank maintenance, always a tough problem, is simplified and speeded up through the use of Spray Equipment and Versatal Pumps! Even heavy coal tar emulsions go on fast and evenly, effecting savings in time and material. This is just one problem out of thousands solved with Versatal equipment in industry.

FREE! A book of ideas on how Alemite Versatal Equipment can help solve your maintenance problems. Write to Alemite, Dept. B-53, 1830 Diversey Parkway, Chicago 14, Illinois.

SW ALEMITE *Versatal*

If you write maker identify as **IEN - 5845**

PHOTOGRAPHING . . Copy camera reproduces drawings, business forms

Source: **ROBERTSON CO.**
3065-69 Elston Ave., Chicago 18, Ill.

Goerz Artar 14-in. lens

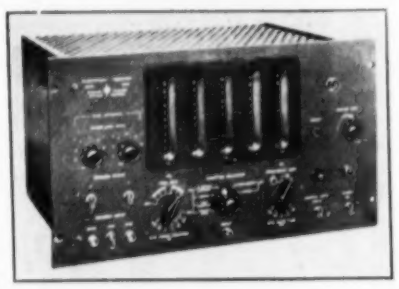
Illustrated is equipment initially developed for the graphic arts field. It is now available for industrial use to photograph templates, engineering drawings, business forms. It can enlarge the copy 2x or reduce it 5x. It takes film to 17 by 17 in. and mounts a copy holder for art work measuring to 21 by 25 inches.

The holder is illuminated by two 1,500-watt G. E. lamps and reflectors. A 12 by 15-in. transparency opening is provided in the copy board to make prints directly from positives. The assembly is on a base measuring 8 ft. in length by 28 in. in width. Inside is space to store art work, chemical solutions, film, trays. Connection is to a 110-volt ac. outlet.

If you write maker identify as **IEN - 5846**

COUNTING . . Electronic instrument for frequency, period, time intervals

Source: **HEWLETT-PACKARD CO.**
393-97 Page Mill Road, Palo Alto, Calif.



No skill required

Model 522B is a new instrument to measure or count production quantities, nuclear radiations, rotating speed, power line frequency, weight, pressure, temperature, acceleration. It assembles five decade counters with gating and auxiliary circuits. The unknown is applied through a gate circuit that remains open for a precise interval controlled by a quartz crystal.

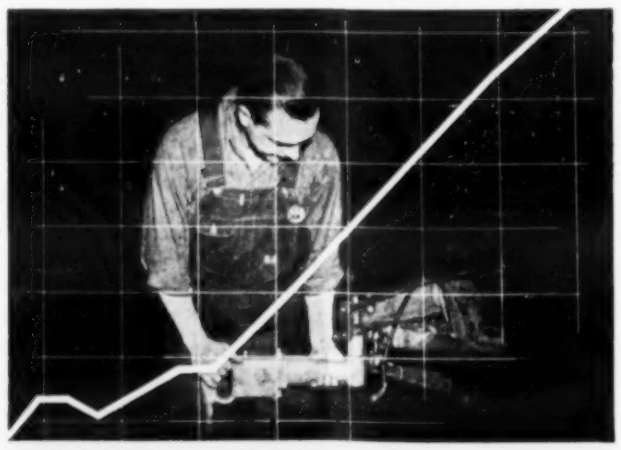
Occurrence rate can be measured from 0.00001 to 100,000 per second. Time can be measured from 10 microseconds to 27.8 hours. Counting is available over periods of 0.001 to 10 seconds or multiples. Display time can be adjusted to any duration. Counts are reset automatically. Action is repetitive. List price of the new instrument is $900.

Identify as **IEN - 5847**

Rockwell Manufacturing Company reports excellent results obtained by a tool and die maker who installed nineteen Delta upright bench type drilling machines at individual benches for the tool makers. They do not have to leave their places for hole drilling, threading, burring, countersinking, power reaming. Maintenance for the nineteen machines is about $20 per year on an average.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 5848**



PRODUCTION CURVES GO UP

CP's complete line of Reversible Air Impact Wrenches with angle head models for reaching awkward spots save from 25 to 75% of nut running and removal time. CP Air Impact Wrenches are powerful and smooth operating without fatiguing torsional thrusts. Available with side, pistol grip or straight handles. Write for more information *Chicago Pneumatic Tool Company, 8 East 44th Street, New York 17, N. Y.*

Chicago Pneumatic

PNEUMATIC TOOLS • AIR COMPRESSORS • ELECTRIC TOOLS • DIESEL ENGINES
ROCK DRILLS • HYDRAULIC TOOLS • VACUUM PUMPS • AVIATION ACCESSORIES

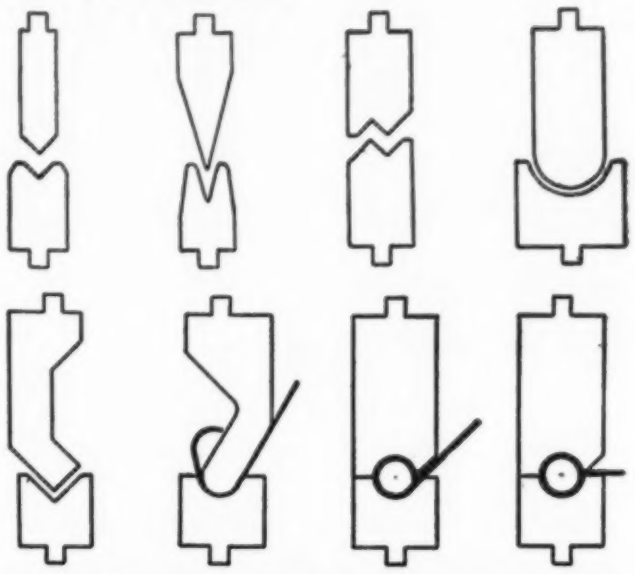
If you write maker identify as **IEN - 5849**

PRESS BRAKE FORMING DIES

PROMPT DELIVERY

Any Metal—any gage—to fit any make of machine

Here are a few examples:



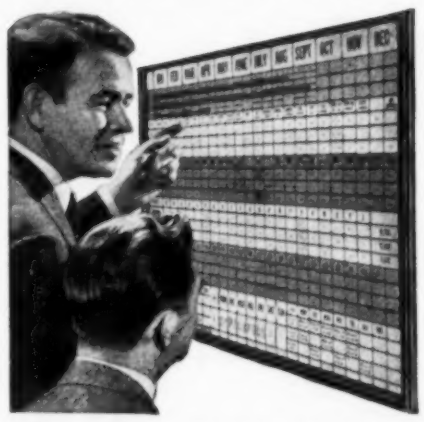
RAFTER MACHINE COMPANY, INC.
SINCE 1917

249 Stephens Street **Belleville 9, N. J.**

COLD ROLL FORMING MACHINES AND GANG SLITTERS

If you write maker identify as **IEN - 5850**

You Get Things Done Quicker, Better With the Boardmaster Visual Control



- ★ Graphic Picture of Your Operations—Spotlighted by Color
- ★ Facts at a Glance—Saves Time and Eliminates Confusion
- ★ Simple and Flexible — Easily Adapted to Your Operations
- ★ Easy to Operate—Type or Write on Cards, Snap on Board
- ★ Ideal for Production, Scheduling, Inventory, Traffic, Etc.
- ★ Compact, Attractive. Made of Metal. Over 40,000 in Use.

Complete Price $49.50 Including Cards

FREE 24-Page ILLUSTRATED BOOKLET E-300 Without Obligation

GRAPHIC SYSTEMS, 55 West 42nd St., New York 36

If you write maker identify as **IEN - 5851**

Send for your free copy now

Free booklet helps you cut gummed tape costs

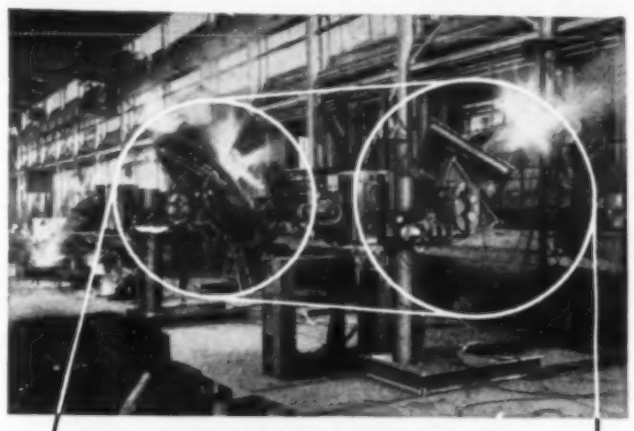
This booklet is filled with helpful tips on saving money with Blue Ribbon Superstandard Gummed Tape. You learn 5 simple steps for faster, less expensive packaging. You see how to apply tape for maximum efficiency. You read case histories of ways that well-known companies slashed their packing costs. Crammed with diagrams, photos. No obligation—send now!

CONSISTENTLY SUPERIOR *Blue Ribbon* SUPERSTANDARD GUMMED TAPE

NAME _____
COMPANY _____
STREET _____
CITY _____ ZONE _____ STATE _____

HUDSON PULP & PAPER CORP., Dept. IN-1, 505 Park Ave., New York 22

If you write maker identify as IEN - 5852



More WELDING going on here....

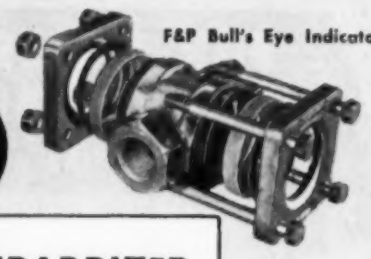
More welding and less time spent in flopping, propping up and crawling around weldments is the end result of the C-F Positioners in this welding department.

Mounted on C-F Welding Positioners, weldments can be quickly brought into position for a downhand pass—better, more uniform welds with resulting economies and production increases follow. Welders spend more time welding when they work with C-F Positioners because one "set-up" on the table allows them to maneuver the job without assistance, whether hand or power operated Positioners are used.

Power operated, variable speed C-F Positioners, with table rotation speeds in any range from 0 RPM and up, coupled with table tilt to 135° from the horizontal make them the logical choice for any production welding operation. Like all C-F Positioners, they have drilled tables for easy set-ups or tables can be quickly removed for installation of special fixtures or jigs. Write for Bulletin WP 26. CULLEN-FRIESTEDT CO., 1305 S. Kilbourn Avenue, Chicago 23, Illinois.

CULLEN-FRIESTEDT CO., CHICAGO 23, ILL. C-F positioned welds mean better, more economical welds

If you write maker identify as IEN - 5853



F&P Bull's Eye Indicators

NOW

STANDARDIZED AND STOCKED FOR PROMPT DELIVERY

Selection of FLOWRATOR Meters and other F&P flow-rate instruments simplified

Standardization of F&P indicating instruments permits quantity manufacture, lower costs, and quicker deliveries.

You can now select flow meters from catalog data to meet your immediate requirements. Engineering charges and manufacturing delays are eliminated.

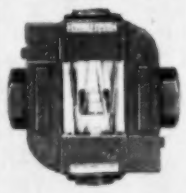
WRITE FOR NEW "STOCK FLOW METER" BULLETIN

Contains complete data, sizes, and prices with illustrations of F&P instruments now stocked. It lists all F&P sales engineering offices showing which offices carry stock meters.

PROCESS CONTROL INSTRUMENTS

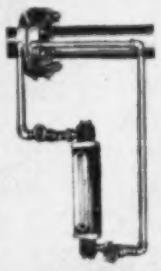
FLOWRATOR

FISCHER & PORTER CO.
1950 County Line Rd.
HATBORO, PENNSYLVANIA, U. S. A.



RATOSIGHT Flow Indicators

"C-CLAMP" FLOWRATOR Meters



ORI-FLOWRATOR high-capacity by-pass meters

MAGNASIGHT Flow Indicators

Laboratory Flow Test Kits

FLOWRATOR accurate flow measurement meters

If you write maker identify as IEN - 5855

TESTING . . Dynamometer and meters for production test on electric motors

Source: GEORGE L. NANKERVIS CO.
19253 W. Davison, Detroit 23, Mich.

No skill required

Model 52 Custom is a new self-contained assembly of self-adjusting load absorbing brake, Quick Check torque scale reading directly in foot pounds and horsepower, meters to read ac. volts, amperes, watts and speed and switchgear to select single or three phase power for the motor under test.

Assembly is in a steel cabinet with an adjustable stand on which to mount the motor to be tested and a chuck for connection to its shaft. The assembly rates to 3 hp. at 1,800 rpm. Speed is maximum at 4,000 rpm.

If you write maker identify as IEN - 5856

PAINTING . . Stainless steel powder in resin vehicle to brush on or spray

Source: STEELCOTE MFG. CO.
P. O. Box 550, St. Louis 3, Mo.

Prevents corrosion

Colors are now available, black, white, gray, ivory, green, orange, yellow, in the resin vehicle stainless steel pigment paint, previously described IEN-409-52. The new material employs a vinyl plastic vehicle. Application is by spraying, brushing or dipping. The film dries to handle in 30 to 60 min. after spraying and in 2 to 3 hr. for recoating. It can be force dried in 10 minutes.

The dry film will withstand constant wet heat to 180 deg. F. It is impervious to moisture, resistant to most chemicals. It is odorless and non-toxic when dry. Packaging is in quarts and gallons. One gallon covers 600 square feet.

If you write maker identify as IEN - 5857

WEIGHING . . Platform scale for counting and straight weighing

Source: DETECTO SCALES INC.
538-42 Park Ave., Brooklyn 5, N. Y.

Load to 200 pounds

One work piece in the pan at the beam end of this new Model 1742 scale will balance 50 pieces on the platform in a counting operation. An additional piece in a tray, at position 25 on Model 1743, will balance 25 additional pieces for a total of 75 on the platform. The tray can be moved along the beam for counts from 1 to 49. One piece, more or less than the correct number on the platform, will be indicated by the over-and-under dial that is part of the scale assembly.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

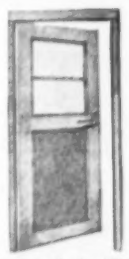
If you write maker identify as IEN - 5858

Strong – Sturdy
TRUSCON INDUSTRIAL STEEL DOORS

These strong durable units are practically indestructible. They are particularly adaptable for use in basements, rear entrances, boiler rooms, fire exits and similar locations in factories, hotels, apartments, schools, churches, shops, warehouses, filling stations and stores. Swing Type Doors are furnished with heavily reinforced pressed steel door frames, prepared for Truscon standard door hardware.

Stiles and rails are made of pressed steel tubing with continuous lock seam. All corners are carefully fitted, substantially reinforced, and welded solidly. The large size of the 16 gauge tube, 1¾" x 5", provides approximately 14" of continuous welding around the perimeter – thus insuring permanent rigidity and complete elimination of sagging.

Swing doors may be equipped with either lever latch or cylinder lock hardware. Slide doors have hasp and staple hardware.



Truscon Swing Type Steel Doors

Truscon Slide Type Steel Doors

FREE BOOK!

Illustrated literature gives complete details and specifications on Truscon Industrial Steel Doors. Write for it.

TRUSCON® STEEL DIVISION
REPUBLIC STEEL CORPORATION
1094 ALBERT STREET • YOUNGSTOWN 1, OHIO

If you write maker identify as IEN - 5859

an all-purpose oil seal with new long life and a wide range of applications

The new LPD Clipper Seal provides improved sealing efficiency over a wider range of shaft speeds and equipment variables. It is effective under service conditions and temperatures heretofore considered impossible.

It can be used for practically any application with greater assurance of fewer replacements. Because of its lip design, and compounds used, it requires less lubrication over its bearing area, enabling it to last longer and run cooler. The greater flexibility of its lip enables it to perform better, sealing effectively with minimum torque.

Available in a wide range of heel and lip compounds. For further information write Johns-Manville, Box 60, New York 16, N. Y.

Johns-Manville CLIPPER SEALS

If you write maker identify as IEN - 5860

M. S. A.
Chest-mounted Faceshield

"OUT IN FRONT"
in Safety, Service, Comfort

Workers give it their vote for the best in comfort and protection. Wide-open space between visor and face eliminates "coming up for air." Visor adjustable to best angle for job. A favorite with women too, no mussed hair-do's.

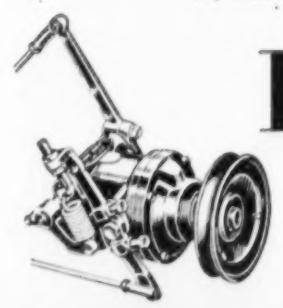
You'll find complete details in Bulletin No. CN-5.

- √ AMPLE VENTILATION
- √ NO PRESSURE POINTS
- √ EASY ADJUSTMENT
- √ NO BINDING
- √ FREE MOVEMENT
- √ EASY VISOR REPLACEMENT

MSA SAFETY EQUIPMENT HEADQUARTERS

MINE SAFETY APPLIANCES CO.
Braddock, Thomas & Meade Sts.
Pittsburgh 8, Pa.
At Your Service: 66 Branch Offices in the United States

If you write maker identify as IEN - 5861



now

ONE GOVERNOR ONE MODEL . . .

for 9 out of 10 industrial and farm engines

PIERCE LONG RANGE UNIVERSAL GOVERNOR

- Instant variable speed selection and accurate engine control at any speed setting within 1200 to 2600 RPM. Higher and lower ranges obtainable by simple change of pulley. Also "constant speed" operation.
- Accurate, dependable speed control for engines operating corn shellers, drag lines, hoists, arc welders, trucks and tractors with power take-offs, etc.

Write for Complete Information

DEALERSHIPS AVAILABLE

List Price $39.50
Pulley Extra 4" $1.70 5" $1.75

THE PIERCE GOVERNOR COMPANY, INC.
1636 Ohio Avenue, Box 1000, Anderson, Indiana, U. S. A.

WORLD'S MOST EXPERIENCED GOVERNOR MANUFACTURER

If you write maker identify as IEN - 5862

CONTROL COSTS

Stop human errors in reading, remembering, recording! Toledo Printweigh Scales provide accurate printed weights . . . *accurately* recorded. Send for bulletin 2021. Toledo Scale Co., Toledo 1, Ohio.

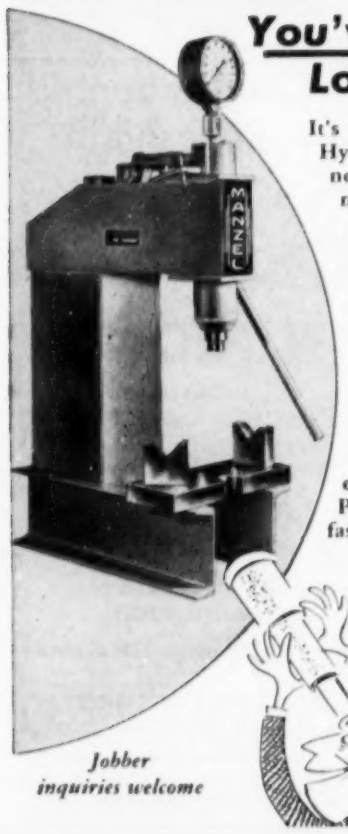
TOLEDO®

Headquarters for SCALES

If you write maker identify as IEN - 5863

The ARBOR PRESS

You've Been Looking For!



It's the new Manzel 10 Ton Hydraulic Arbor Press...engineered to meet a variety of needs in manufacturing plants and automotive service stations. The long ram stroke and unusual depth and width of throat make it adaptable to straightening, material testing, bending, bearing or bushing work, and many other uses. Gauge is optional.

The press is portable...or can be permanently mounted on bench, column, or wall. Power unit operates 3 times faster. Ram is self-retracting. Write today for complete information.

Jobber inquiries welcome

Manzel
242 Babcock Street
Buffalo 10, N. Y.

If you write maker identify as IEN - 5864

You get ALL these features when you buy PET DRILLS!

If you want the best, take an extra look at the PET Superduty Drill above! Here's a continuous-duty drill—built to *work* right and *handle* right. And, the price is right, too! All features shown are *standard* in PET Superduty Drills—at a *standard drill price!* Complete line of 54 ¼", ⅜" and ½" models gives you wide selection—in pistol or saw-type grip. Use coupon below to get complete facts!

PORTABLE ELECTRIC TOOLS, INC., 320 W. 83rd St., Dept. IE-53, Chicago
In Canada: Portable Electric Tools, Ltd., 452 Birchmount Rd., Toronto

MAIL COUPON FOR FREE BULLETIN

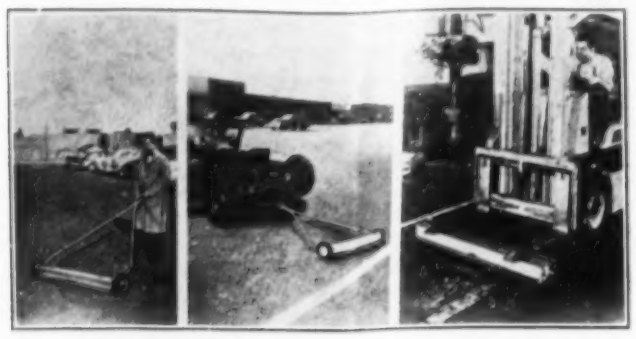
Please send me free PET Superduty Catalog and name of nearest distributor.

Name _____ Title _____
Company _____
Address _____
City _____ State _____

If you write maker identify as IEN - 5865

MAGNET . . Permanent unit picks up nails, tacks, tramp iron

Source: ERIEZ MFG. CO.
253 Grove Drive, Erie, Pa.



Prevents punctures in traffic aisles

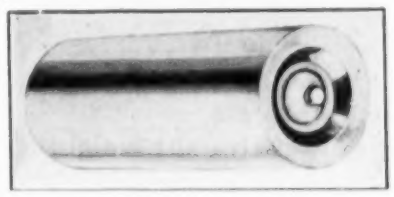
Super-Sweeper is a new permanent magnet available with a towing hitch and wheel mounting or for application on the forks of an industrial truck. It is moved over a floor or yard surface to pick up nails, ferrous objects. Four lengths are between 24 and 60 inches. The wheel mounted assembly is equipped with 8 by 2-in. tires.

The magnet will operate satisfactorily when moved at speeds not greater than 10 miles per hour. The element is riveted and is faced with stainless steel deflector plates. They prevent damage to the face if large objects are encountered. Cleaning is by turning the magnetic face up and stripping the metal from the canvas cover.

If you write maker identify as IEN - 5866

CONTROL . . Quartz delay unit stops electrical energy momentarily

Source: BLILEY ELECTRIC CO.
253 Union Station Bldg., Erie, Pa.



Built to order

Delay Line is a new ultrasonic fused quartz unit for connection into an electric circuit. The unit converts electrical energy into sound energy, passes the latter through the fused quartz and reconverts it into electrical energy by means of piezoelectric quartz transducers which are bonded to one or both ends of the housing.

Delay time, or transit time through the fused quartz, can be held to close tolerances in a range between 5 and 1,500 microseconds. Frequency range is between 5 and 100 mc. with stability within 2% between minus 35 and plus 85 deg. C.

Identify as IEN - 5867

Pneumatic cylinders and a central pushbutton control station have been installed by Alvey Conveyor Manufacturing Company on an assembly of its roller and belt conveyor switching sections. An operator sits comfortably at the controls and moves the switch to direct loads riding on the conveyor lines to their destinations.

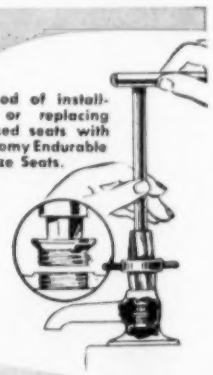
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5868

MAKE *FAST* PERMANENT REPAIRS ON LEAKING FAUCETS, VALVES

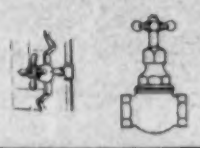
REPLACE Worn Seats with Endurable Bronze in a few minutes, STOP WASTE...SAVE MONEY

With an Economy Kit, you can replace worn and cut seats on valves, faucets and bibbs for a few cents—stop leaks for good. Simple—easy to use—Economy Kits and Seats permit *professional* repairs—end waste permanently. Your money back if not satisfied. Write for illustrated circular and price list.



Method of installing or replacing cracked seats with Economy Endurable Bronze Seats.

ALSO REPAIRS VALVES AND CONCEALED FITTINGS



SENIOR KIT
11 SEAT SIZES
7 BUSHING SIZES

Economy VALVE SEAT CO.
1488 N. Keating Ave. Chicago 51, Illinois

If you write maker identify as IEN - 5869

HOW DO YOU TIE?

WITH TWINE?

Use Gerrard's B.S.M. Twine Sealer!

FULLY AUTOMATIC *SEALS WITH METAL*
3 SECOND CYCLE
SAVES YOUR TIME!

WITH STEEL?

Use a Gerrard Machine and Round Steel Strapping
8 TO 18½ GA.

Semi-automatic Model Q

Unique twist knot—no seals needed
STRONG SAFE FAST
Costs 40% less than any other metal reinforcement

Model G

WRITE FOR FREE LITERATURE

Gerrard Steel Strapping Division, United States Steel Corporation
4701 South Richmond St., Chicago 32, Ill.

USS **GERRARD STEEL STRAPPING**

UNITED STATES STEEL

If you write maker identify as IEN - 5870

FOR MATERIAL HANDLING—

more and more—the swing is to wide-base pneumatic tires

GENERAL

INDUSTRIAL PNEUMATIC TIRES

More Designers are specifying wide-base General Pneumatics. They know Generals add these extra selling points to handling equipment.

SAVE TIME • MONEY • LABOR

- *MORE LOAD CAPACITY AT LOW OR HIGH SPEEDS*
- *CUSHION EQUIPMENT AND LOADS REDUCING BREAKAGE AND SPILLAGE*
- *SAVE HIGH COST FLOORS AND FLOOR SURFACES*
- *SLOW, EVEN WEAR FOR LONG SERVICE*
- *HIGH FLOTATION FOR EASIER ROLLING OVER SOFT GROUND*
- *ROLLS EASIER, SMOOTHER OVER ALL SURFACES*

Available separately or in assemblies of Tires, Tubes and Wheels. Size O.D. 8" to 27"—200 to 4000 lbs. cap. for low or high speeds.

THE GENERAL TIRE

Rigid **CASTER FORKS** *Swivel*

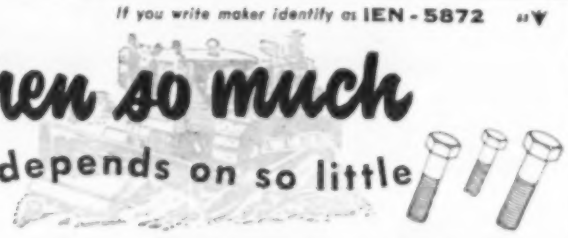
Wide-base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

SEND FOR CATALOG . . . DEPT. 6

THE GENERAL TIRE & RUBBER CO. AKRON, O.

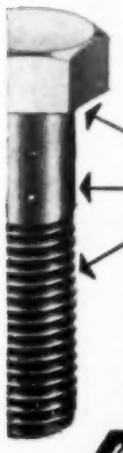
If you write maker identify as IEN - 5872

When so much depends on so little



Don't settle for less than Chicago "*Safety Plus*" High Carbon Heat Treated Cap Screws

- For complete hardness from the center all the way out—no soft skin to cause wear or breakage due to fatigue.
- For freedom from scale — cleaner to handle — give a tighter thread fit — have smoother bodies.
- For extra safety — better appearance — ALL at no increase in cost to you.



You get these advantages with Chicago "Safety Plus" Heat-Treated Cap Screws.

Corners stay sharp . . . provide positive non-slip wrench grip . . . No decarburized surface.

Bodies wear longer . . . nominal diameter remains to size . . . No decarburized surface.

Threads without nicks . . . hold tighter in engagement . . . No decarburized surface.

Your Service-Conscious Industrial Supply Distributor carries a complete stock of our products. Ask him for samples of Chicago "Safety Plus" Heat Treated Cap Screws. His familiarity with your local field conditions enables him to fill your supply needs promptly and correctly. Ask for "Chicago" and get "Safety Plus".

The Chicago SCREW COMPANY
2525 W. WASHINGTON BLVD. • BELLWOOD, ILL.

If you write maker identify as IEN - 5873

if it's FLAMEFOIL*

It can't Blaze

Approved by all recognized safety authorities

Write us for samples you can test to your own satisfaction. Please specify the approximate weight of duck desired.

Manufactured under Patents Nos. 2,014,176 and 2,299,612 . . . . . others pending.

RESISTANT to
- FIRE
- WATER
- WEATHER
- MILDEW

PHILADELPHIA TEXTILE FINISHERS, Inc.
102 Lafayette St. Norristown, Penna.

PROCESSORS OF FLAME-RESISTANT FABRICS

If you write maker identify as IEN - 5874

Give you *LEGIBILITY* that *lasts* in metal

Why not let experienced Grammes craftsmen help design the plate that is right for your product? Whether etched, embossed, lithographed or enameled—aluminum, brass or stainless steel—they'll make sure your plate has the right finish for attractiveness and wearability . . . and resists corrosion or deteriorating elements.

PROMPT DESIGN SERVICE Your rough sketch or blueprint will bring prompt recommendations and prices. Meantime write for our new booklet, "Tips on Name Plate Selection and Design."

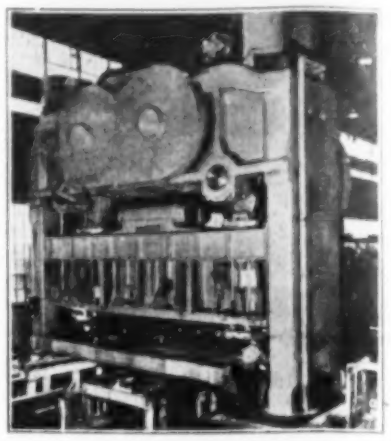
NAME PLATES DIALS — **L.F. GRAMMES & SONS** INCORPORATED ALLENTOWN, PA. — TRIMS • BEZELS PANELS

SPECIALISTS IN DECORATIVE METAL

If you write maker identify as IEN - 5875

PRESS . . Single acting mechanical, 4,000 ton, forms vehicle side rails

Source: BALDWIN-LIMA-HAMILTON CORP.
Paschall Post Office, Philadelphia 42, Pa.



Forms straight true work

This new press will take **steel blanks** measuring to 318 in. in length and will form them, without camber, into channel section side rails for vehicle frames. The press provides 320 in. of clear space between the uprights. Its stroke is 22 inches. Adjustment is 12 inches. Shut height is 40 inches. Drive is by a 150-hp. motor. A 25-hp. motor adjusts the press slide.

Construction includes four tie rods that are stressed cold to a predetermined maximum safe working pressure by means of hydraulic jacks. Overload elongates the rods slightly to protect the frame members against critical deflection. The bed, slide and arch are each in two pieces to assist in manufacture, shipment and erection. They are held together by heated and shrunk rods sufficiently large in section so each of these members is, in effect, a solid one piece unit.

The blank lies on a pressure pad supported on pins above six 42-in. air cushions. They are "linked" so they operate as a single unit. They provide 415 ton of pad pressure with 100-lb. air. They move this air back into the line on the down stroke until, close to the bottom, the line valves close and the little air remaining in the cylinders is exhausted. Thus the pressure pad stays down until the slide reaches a predetermined point on the "up" stroke. Here the pilot valve closes the exhaust and admits air back into the cushions.

If you write maker identify as IEN - 5876

SHEARING . . Hydraulic tool will cut a 3 by 3 by ¼ in. angle

Source: MANCO MFG. CO.
Grove & West, Bradley, Ill.

For field use

Guillotine Model A-20-B is a new portable hydraulic tool to mount on a floor or bench. It connects through a length of hose to a hand or power operated pump. It makes a straight, clean shear cut without deformation on the end of the angle iron. The unit can be adapted to cut special shapes such as channels or H-beams when specified.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5877

TAILORED HEAT for every Industrial Use

Watlow CARTRIDGE HEATERS
Flexible leads or rigid terminals. Diameters ⅜" to 1 5/16", lengths 1½" to 20". Capacities 50 to 1500 watts.

Watlow STRIP HEATERS
Straight or curved design. Widths ¾" and over, lengths to 72". Post, button and bracket type terminals and flexible leads.

Watlow IMMERSION HEATERS
Straight or curved. Diameter ⅜" to 2", lengths 6⅛" to 67", capacities 150 to 10,000 watts.

Watlow CYLINDRICAL HEATERS
Patented clamping band. Widths 1⅛" to 2", diameters 1⅝" and up. Watt densities up to 45 watts / sq. in.

Watlow HOT PLATES
Polished steel heating surfaces. Portable or flush mounting 3-heat switch for 550°F. to 750°F.

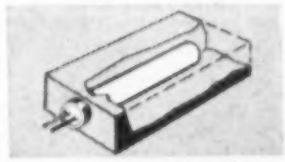
Watlow THERMOSTATS
Temperature range 100°F. to 550°F. Built-in double pole on-off switch. Capacities 125V. 35A, 4375 W; 250V, 25A, 6250 W.

WATLOW Since 1922 — Designers and Manufacturers of Electric Heating Units
ELECTRIC MFG. CO.
1370 FERGUSON AVE.
SAINT LOUIS 14, MO.

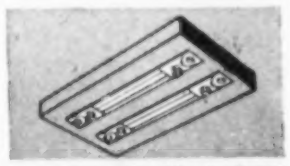
If you write maker identify as IEN - 5878

G-E CALROD* HEATERS GIVE DEPENDABLE SURFACE HEATING

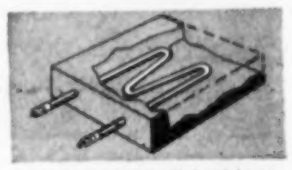
When you need dependable heating for platens, cylinders, dies, rolls—or any surface heating application—use an easy-to-install G-E heater. Use Calrod heaters for clamping on, wrapping around or spacing away from surfaces, locating in grooves, or drilled holes and casting into metal. They come in the widest range of standard sizes, ratings and sheath materials to meet almost any conceivable heating requirement.



For a "spot" of heat, insert cartridge heaters into holes.



For a "zone" of heat, clamp on strip or tubular heaters, or



cast dependable Calrod heaters permanently into metals.

FOR FREE BULLETINS

Get complete catalog of heaters and devices, GEC-1005, and "Heating Surfaces," GEA-5097, from your nearby Authorized G-E Distributor or write: Sect. 720-76, General Electric Co., Schenectady, N. Y.

** Registered Trademark, G.E. Co.*

GENERAL ELECTRIC

If you write maker identify as IEN - 5879

Line-O-Power STRAIGHT LINE DRIVES

High quality, compact design incorporating Duti-Rated high hardness precision gears assembled in streamlined housings of rugged cast iron.

Accurate high production machine tools assure low original cost. Simplified construction, direct splash lubrication, quality workmanship assure long wear life. Efficiencies of 96% or higher.

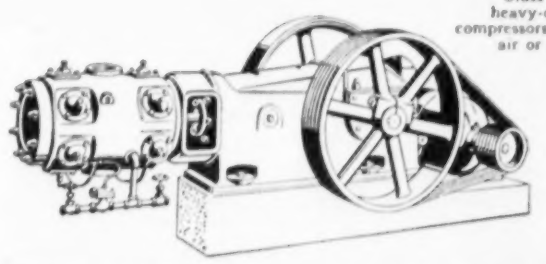
Double and triple reduction — capacities up to 200 h.p., ratios 5 to 1 up to 238 to 1.

FOOTE BROS. GEAR AND MACHINE CORPORATION
Dept. IEN, 4545 S. Western Ave.
Chicago 9, Illinois

WRITE for BULLETIN LPB

FOOTE BROS.
Better Power Transmission Through Better Gears

If you write maker identify as IEN - 5880



Class ES, heavy-duty compressors for air or gas.

Dependable, low-cost AIR POWER for every industrial need

Also, a complete line of portable compressors

Ingersoll-Rand air compressors are known the world over for lasting dependability and economy of operation.

Whatever the job — if it calls for *air power*, we can meet your exact requirements, with substantial savings in time, effort and expense.

Ingersoll-Rand
11 Broadway, New York 4, N. Y. 708-1

CONDENSERS • CENTRIFUGAL PUMPS • DIESEL AND GAS ENGINES
COMPRESSORS • AIR AND ELECTRIC TOOLS • ROCK DRILLS • TURBO BLOWERS

If you write maker identify as IEN - 5881

New EFFICIENCY FOR ANY VISE JOB

"Both Hands Free"

STUDEBAKER

HYDRAULIC

SPEEDVISE

Makes a high production tool of the old fashioned screw vise.

SAFE-hands free to guide work.

This SPEED VISE will cut your costs on precision assembly, forming, punching, presswork, cutting, straightening, bending and other vise jobs. Entirely foot controlled—operators hands free to guide work. Self contained — no outside power required. Slow or fast action—pressure from a feather touch to maximum. Can be mounted anywhere — portable.

Model 500—Pressures to 5 tons.

Model 750—Pressures to 7½ tons.

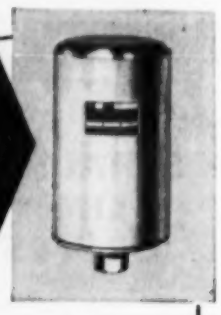
Write for bulletin No. 54

Studebaker MACHINE COMPANY

1235 S. 9th Avenue Maywood, Illinois

If you write maker identify as IEN - 5882

SENSITIVE, PRECISE PRESSURE-VACUUM CONTROLS



TYPE G9

The pressure vacuum control illustrated is an accurate, highly sensitive, precision-built unit. It may be had with an internal or external, calibrated or uncalibrated adjustment. It is watertight unless the adjustment is external.

It is designed for applications requiring constant repeatability of any on-off differential between .2" and 10" w.c. For full details send for bulletin #5-1.

UNITED ELECTRIC CONTROLS COMPANY

80 School Street, Watertown, Mass.

STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

If you write maker identify as IEN - 5883

90 Pages of Helpful Information on STAINLESS Tubing and Pipe

The CARPENTER STAINLESS TUBING HANDBOOK is a mighty handy reference to have at your fingertips when you want quick answers to design engineering and processing problems involving stainless tubular products. It contains a wealth of easy-to-find technical data conveniently cross-indexed under 150 subjects relating to—selection and specification . . . corrosion resistance . . . heat resistance . . . heat transfer . . . general physical properties . . . sizes and gauges . . . tolerances . . . fabrication and assembly . . . special shapes . . . finishing.

IT'S YOURS FOR THE ASKING—to get your personal copy of the Carpenter Stainless Tubing Handbook promptly, just write us on your company letterhead.

THE CARPENTER STEEL COMPANY

Alloy Tube Division, Union, N. J.

If you write maker identify as IEN - 5884

PROCESSING . . Ultrasonic generator and transducer for specified purpose

Source: AEROPROJECTS
321-25 S. Matlack St., West Chester, Pa.

Engineered to order

Ultrasonic equipment, rating 110 to 2,000 watts in a range from 5 to 100 kilocycles, and 600 to 1,500 watts in higher frequencies, is now availabe in engineered assemblies to include the transducer coupling. The equipment converts radio frequency power into ultrasonic energy by means of a nickel stack, quartz crystal, barium titanate ceramic, for application in emulsion work, soldering, spot welding, cold welding of aluminum, cleaning.

Low frequency equipment tunes to match the transducer by a dial adjustment. The high frequency equipment is dial tuned over a limited frequency band, within its own overall range. Transducers for frequencies outside this range require coil and condenser changes within the generating equipment to match the electronic equipment to the transducer.

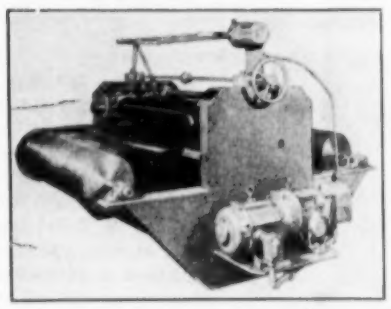
The transducer can deliver its ultrasonic energy in certain applications direct into the medium being treated. In others, because of the effects of temperature or chemical activity on the transducer material, or to provide satisfactory sound transmission, a coupling is required between the transducer and the work.

The company is prepared to supply experienced engineering assistance to work out each problem so the equipment will meet the required operating conditions.

If you write maker identify as IEN - 5885

SPREADING . . Roll type machine to coat cylinder gaskets with wax

Source: UNION TOOL CORP.
316 E. Market St., Warsaw, Ind.



Work rides the wires

Piano wire forms the conveyor in this new wax spreading machine. Cylinder gaskets are fed into the coating rolls on the wire to receive a protective covering on both faces simultaneously. The coating rolls are covered with felt, the doctor roll with neoprene. Operating speed is to 20 fpm. The machine is typical of bulit-to-order assemblies for specified work.

The assembly includes a safety reversing switch, and explosion proof controls. Overall dimensions are about 80 by 80 by 47 inches. The drive adds about 16 in. to the main housing width. Weight is 4,200 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5886

Electrically-Controlled SuperSpeed AIR CYLINDER

Six to ten times faster than conventional air cylinders, the Bellows Super-Speed Air Motor develops tremendous speed and power from normal air pressure. At 100 lbs. air, power is great enough to punch ½" dia. hole through 1/16" thick mild steel. Ideal for staking, riveting, forming, swedging, stamping or punching.

The Super-Speed Air Motor is a complete power unit with built-in low voltage Electroaire directional valve and speed regulators.(Also available with manually controlled valve.) Only one air connection needed.

Write for Bulletin 1163 today.
Address: Dept. IEN 553
The Bellows Co., Akron 9, Ohio.

2½" BORE
•
Stroke Lengths
2½" 4", 6", 9", 12"
•
Seven Mounting Styles

The Bellows Co.
Akron 9, Ohio

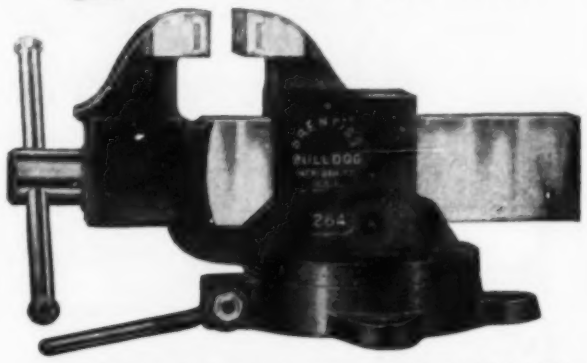
1214

If you write maker identify as IEN - 5887

PRENTISS

"BULL DOG" VISES

Backed by 80 years of time-proven acceptance by industry.



MACHINISTS — TOP SWIVEL JAW — COMBINATION PIPE HINGE PIPE — WOODCUTTERS — UTILITY

Renewable steel paws that cannot work loose, swivel base with a positive lock plus other features that give you vises that will stand the most severe tests. Send for THE NEW PRENTISS CATALOGUE TODAY.

See Us at Booth 737, Triple Mill Supply Convention

PRENTISS VISE DIVISION

OF THE CHARLES PARKER CO., MERIDEN, CONN., U. S. A.

If you write maker identify as IEN - 5888

For the first time . . .

AIRCRAFT DESIGN ENGINEERS can allow for continuously changing power and performance requirements through the complete *interchangeability* (on the same mounting base) of this new line of Guardian Aircraft Relays. Standard spacing of mounting bracket holes provides extreme flexibility. **It's the way to meet new control specifications without changes in frame drawings!** Units range from single pole, single throw (time delay available) to four pole, double throw contact combinations, with ratings from 10 amperes to 50 amperes at 28 v., D.C. All sealed in accordance with MIL-R-6106. Weights: from 7.5 ounces to 20.8 ounces. Write for Bulletin 1 AR.

NOTE THE PRECISE ALIGNMENT OF MOUNTING HOLES!

Specify from Guardian's complete range for every advantage of quick interchange:

GUARDIAN ELECTRIC

1620-F W. WALNUT STREET CHICAGO 12, ILLINOIS

A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

If you write maker identify as IEN - 5889

NEWCOMER CARBIDE . . .

CONTROLLED QUALITY

Carbides made in our own modern plant

With the "KNOW-HOW" gained from nearly a quarter-century of experience and the newest equipment available.

Every Newcomer representative is a qualified tool engineer with the ability to solve your most difficult problems.

NEWCOMER PRODUCTS, INC.

General Sales Offices

PITTSBURGH 21, PENNA.

Plants at LATROBE, PENNA.

If you write maker identify as IEN - 5890

WIRE-BRAIDED RUBBER HOSE IN *Economy* LENGTHS

Now! From the world's most modern factory comes a complete line of wire-braided rubber hose in lengths economically adaptable to your requirements!

Republic WIRETEX Hose has all the desirable characteristics of flexible, high-quality rubber hose. It bends naturally to fit any connection. It's not weakened by vibration or flexing. It resists temperature variances between —40°F. and +200°F. It's oil, grease and abrasion-resistant and won't rust or corrode.

Republic WIRETEX Hose is reinforced with multiple wire braids that maintain diameter dimensions despite high pressures from 400 to 5,500 p.s.i. Republic WIRETEX Hose is available with rubber or textile covers. Get the facts today! For high, medium or low-pressure carriers for any gases or liquids of great strength, flexibility and long life, your answer is Republic WIRETEX!

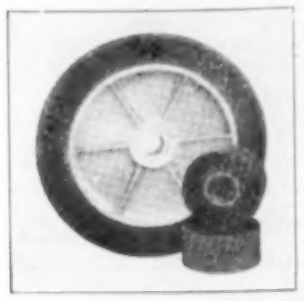
REPUBLIC RUBBER DIVISION
LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO
INDUSTRIAL RUBBER PRODUCTS

If you write maker identify as IEN - 5891

If you write maker identify as IEN - 5893

GRINDING . . Contact wheel expands as it drives abrasive belt

Source: ADAMSON BROTHERS CO.
7303 S. Halsted St., Chicago 21, Ill.



To snag or finish

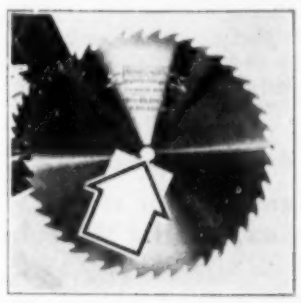
Neoprene body in this new Centri-Wheel is filled with a uniform pattern of holes to provide an expandable structure. As a result the wheel expands, when it is rotating, to grip and drive an abrasive belt. It provides cushioning action under the belt that assists in handling work being ground.

Two sizes measure 4 and 12 in. in diameter. Face width is 2 in. in the small wheel, 2½ in., in the large one. Minimum operating speed is 2,800 and 1,750 rpm. Maximum recommended speed is 4,400 and 2,200 rpm.

If you write maker identify as IEN - 5894

WOOD WORKING . . Circular saw blade for stationary and portable machines

Source: SIMONDS SAW & STEEL CO.
468-72 Main St., Fitchburg, Mass.



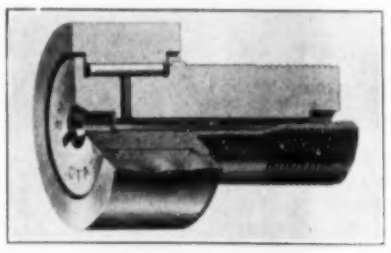
Note the bushing

Bushings, to reduce the center hole from ⅝ to ½ in., have been added to the Si-Clone line of circular saw blades previously described IEN-3056-52. Types in which the bushings are included are rip, cut-off, No. 52, 54, 60 combination, Easy-Cut and planer. In each case the bushing can be removed. Diameters range from 6 to 9 inches.

If you write maker identify as IEN - 5895

BEARING . . Cam follower unit, needle bearing roll on hardened stud

Source: SMITH BEARING CO.
9 Bear Tavern Road, West Trenton, N. J.



Note integral flanges

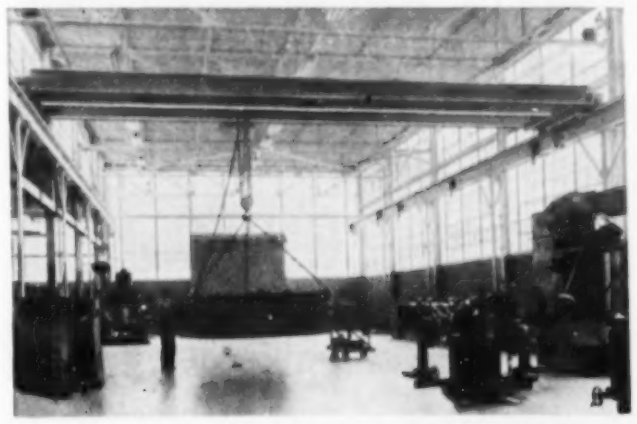
We call your attention to an important point of design that we did not mention in our description of the company's cam follower in IEN-3956-53. This point is in the integral construction of the flanges and stud with the snap ring on the shank-end flange to permit removal of the outer roll. Construction permits making the shank diameter the same as the flange, if required to provide ample shank strength.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5896

If you write maker identify as IEN - 5897

NORTHERN HI-LIFT OVERHEAD CRANES



For Safety—Durability—Dependable Operation with minimum maintenance—these NORTHERN HI-LIFT CRANES are especially developed for low headroom operation and floor control. Let us send you further details in

BULLETIN HL-115-R

NORTHERN ENGINEERING WORKS, 2615 Atwater St., Detroit 7, Mich.

NORTHERN CRANES AND HOISTS

If you write maker identify as IEN - 5898

REMEMBER, MERLIN, WAND WAVING IS STRICTLY HOCUS POCUS!

No, not even a magician can make good on the fantastic claims attributed to cheaper solders, *the mystery alloys with a secret ingredient*, that are supposed to equal the performance of higher tin content solders. What really counts is the quality of the soldered connection . . . something you can always maintain with Kester Solder!

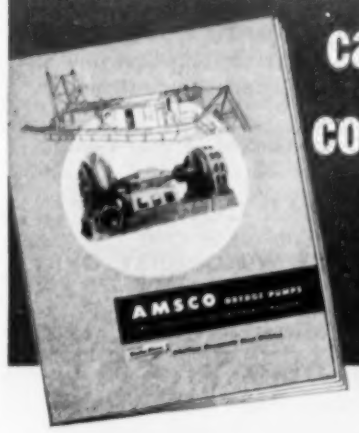
FREE! *Kester Technical Manual, "SOLDER and Soldering Technique." Write today for your copy!*

KESTER

SOLDER COMPANY
4211 Wrightwood Avenue • Chicago 39, Illinois
Newark 5, New Jersey • Brantford, Canada

If you write maker identify as IEN - 5899

This book on AMSCO DREDGE PUMPS can help cut costs in your Dredging Operations



More and more operators are turning to Amsco Dredge Pumps made with manganese steel—"the toughest steel known" in order to save time, money, and materials in their dredging operations.

This book tells you where the real savings can be made and how you can make them. Write for booklet 1052-P.

AMERICAN Brake Shoe COMPANY
AMERICAN MANGANESE STEEL DIVISION
415 EAST 14th STREET • CHICAGO HEIGHTS, ILL.

If you write maker identify as IEN - 5900

AA-267

IF you sell your products in rolls (like adhesive tape), or—if you use rolls in production (like printing or coating) then—**better rolls can build your profits** by reducing waste, by increasing production and by improving your products. Get the facts on Camachine roll slitters and rewinders, the **right** model for every material. Write today to

CAMERON MACHINE COMPANY
61 Poplar Street • Brooklyn 1, N. Y.

Camachine Commander High Speed Slitter Rewinder

Camachines

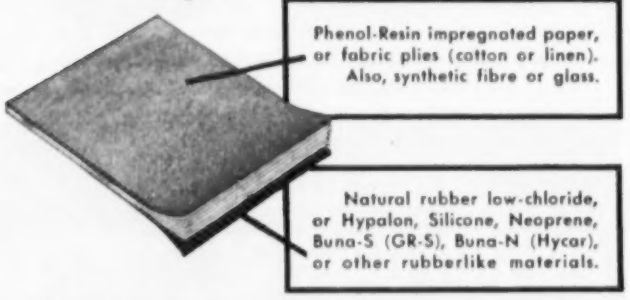
If you write maker identify as IEN - 5901

EXCELLENT PUNCHING CHARACTERISTICS
High Dielectric Strength!

ORCOID is an electrical insulating material made in sheet form. It combines the mechanical strength and electrical insulating properties of Phenol-Resin impregnated laminates with the flexing and sealing qualities of rubber, or synthetic rubber.

Among the many applications of ORCOID are punched or cut washers used in hermetically sealed capacitors.

made of Optional Materials



Almost any combination of specified properties can be met by compounding the correct type of rubber or rubberlike material and hot-pressing with any of several optional Phenol-Resin impregnated laminates under optimum conditions.

ORCOID laminates are economical to use! Contact your fabricator or ask us for full details.

THE OHIO RUBBER COMPANY
DIVISION OF THE EAGLE-PICHER COMPANY
122 BEN HUR AVENUE • WILLOUGHBY, OHIO

Send for Details

on ORCOID and special booklet on rubber and rubberlike materials

THE OHIO RUBBER COMPANY
122 BEN HUR AVENUE, WILLOUGHBY, OHIO
Send us more information on ORCOID Electrical Laminates

NAME _____

COMPANY _____

STREET _____

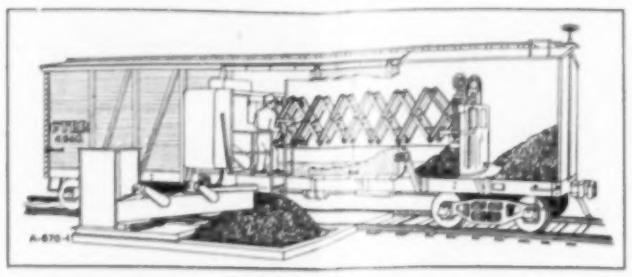
CITY _____ ZONE _____ STATE _____

PLEASE PRINT

If you write maker identify as IEN - 5903

HANDLING . . Power driven unloader scrapes bulk materials from a box car

Source: STEPHENS ADAMSON MFG. CO.
231 Ridgeway Ave., Aurora, Ill.



For dry bulk materials to 2 in. lump

New design of the company's power driven unloader, previously described IEN-9247-50, permits application in cars to both its right and left hand sides as compared to the single-side previous design. One car can be unloading while another is being spotted on an adjacent track so there is no loss of time in the operation.

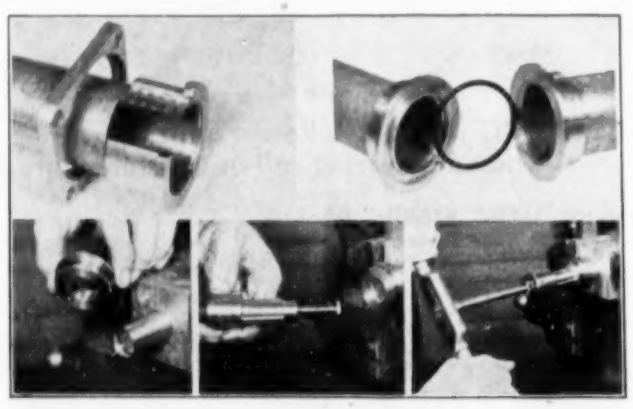
The blade on the end of the pantograph arm swings up on forward arm motion, remains up until it strikes the material in the car or the car wall. Contact results in the blade moving down and the pantograph action reversing to draw the blade back and remove the material ahead of it through the car door to a track side hopper. Movements reverse upon reaching the door, the blade rising and the pantograph extending until it is again obstructed.

The cycle repeats until it is stopped by the operator who moves the boom to cover another portion of the car interior. Final action is to attach a brush to the blade to sweep the car floor clean of the bulk material.

If you write maker identify as IEN - 5904

TUBE FITTINGS . . Aluminum or steel for assembly by expanding the tube

Source: AVICA CORP.
P. O. Box A-1090, Portsmouth, R. I.



Ask for Avica fitting bulletin

Flanged and threaded fittings are included in a new line ranging from ¾ to 7 in. in outside tube diameter in aluminum, steel and stainless steel. The bore on each fitting carries a series of recesses into which the tube is expanded by application of tools available for this purpose. The completed assembly is permanent, leak proof. It develops strength in excess of the strength of the tube.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5905

A PAID NEWS ADVERTISEMENT BY REMINGTON RAND INC.

A TOOL CRIB CONTROL SYSTEM THAT PAYS FOR ITSELF

It's actually easier, and takes less work, to maintain *complete* control over tools than to rely on makeshift routines. And the small investment it takes to set up an effective Tool Crib System is quickly amortized (1) through assured availability of tools, accurately scheduled to meet production line demands; (2) through numerous savings, readily demonstrated, on tool purchase, use, repair, and maintenance; (3) through reduced tool crib personnel.

Remington Rand offers a free booklet which shows in detail how many firms get these practical results. Remington Rand Tool Crib Systems keep paperwork at an absolute minimum—simplify the filing and finding of records by tool, and by worker, and give you at all times a *visible* picture of your tool supply status.

For your free copy of Booklet KD 641, write direct to the publisher—Remington Rand, Room **1955**, 315 Fourth Avenue, New York 10, N.Y.—or use the Reader Service Form herein.

REMINGTON RAND, INC.
Management Controls Library, Room 1955,
315 Fourth Ave., New York 10, N. Y.

If you write maker identify as IEN - 5906

EVERY ENGINEER will want a copy of this BULLETIN

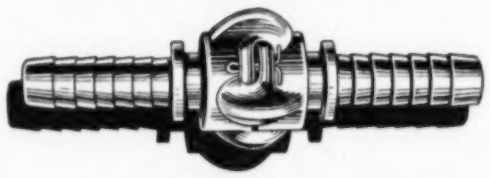
SEND FOR BULLETIN 210

It's easy to get the right cylinder for even the most special jobs when you use Hannifin's big handbook on PNEUMATIC CYLINDERS. 49 pages of helpful specification and engineering data, complete with diagrams and dimensions. The Hannifin line is complete! 6 standard mountings . . . many combination mountings . . . adjustable cushions at either or both ends . . . 2 types of pistons . . . bores to 16". Exclusive construction features assure trouble-free, efficient operation. Send for Bulletin 210. Hannifin also builds custom cylinders in quantity to special design. *Bring us your cylinder problems.*

HANNIFIN
1107 S. Kilbourn Ave., Chicago 24, Ill.
Air and Hydraulic Cylinders • Presses • Air Control Valves

If you write maker identify as IEN - 5907

"AIR KING"



QUICK-ACTING, UNIVERSAL TYPE
HOSE COUPLING

A strong, durable coupling for quick, tight connections on field or factory air hose. Plain design — no parts to get out of order or clogged with dirt. Made in hose ends and male and female threaded pipe ends. Completely interchangeable. Patented safety locking device is proof against vibration and rough handling. Malleable iron (rustproofed) or bronze.

From Your Hose Supplier or Industrial Distributor

DIXON VALVE & COUPLING CO.
PRODUCERS OF *The Quality Line* COUPLINGS • NIPPLES • MENDERS • CLAMPS
"BOSS" "GJ-BOSS" "DIXON" "KING" "AIR KING" "DIX-LOCK"
PHILADELPHIA, PA. BRANCHES: CHICAGO • BIRMINGHAM • LOS ANGELES • HOUSTON

If you write maker identify as IEN - 5908

For maximum "see-ability"... better work...increased production

LUSTRA JADE-LITE

LUSTRA JADE-LITE gives a special quality of light that steps up "see-ability". In addition, its unique tone reduces glare, helps eliminate eye-strain, produce better work and boost production. Jade-Lite is absolutely tops for use in critical work areas. Write for the whole story on Jade-Lite Fluorescent Tubes—it can bring new efficiency and economy. **Lustra Corporation, Dept. P-5, 36 Washington St., Brooklyn 1, N. Y.**

Lustra
AMERICA'S DATED LAMPS

DOUBLE DUTY REFLECTOR LAMPS, INCANDESCENT LAMPS, FLUORESCENT TUBES, SPOT-LITES AND FLOODLITES, RUGGED DUTY LAMPS, FLUORESCENT FIXTURES AND STARTERS

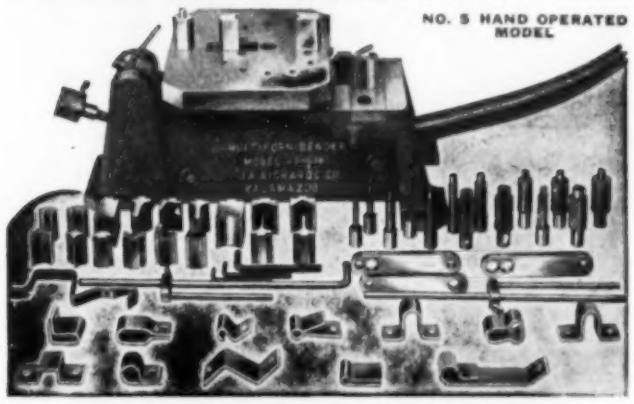
If you write maker identify as IEN - 5909

THE FAMOUS MULTIFORM BENDER CUTTER

Produces Without Special Tooling • Saves Die Costs Saves on Expensive Presses

The illustration at the left shows just a few pieces produced on our famous Multiform Bender-Cutter. This efficient machine is useful in all lines of trade, Spring Plants, Radio, and Electrical Equipment Manufacturers, complete with tooling for bending material up to 1/8" x 1 1/2".

NO. 5 HAND OPERATED MODEL



FIVE-IN-ONE-TOOL — ALSO LARGER MODELS

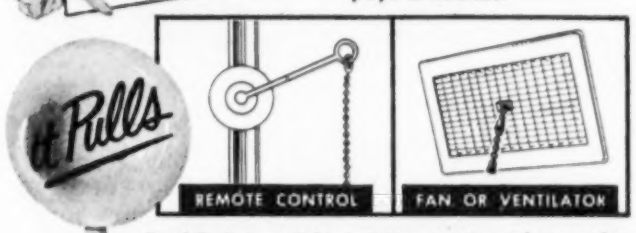
Air Operated Models in this and Larger Sizes Available

IT BENDS FLAT AND ROUND STOCK INTO ANY SHAPES, CUTS AND PUNCHES FLAT STOCK

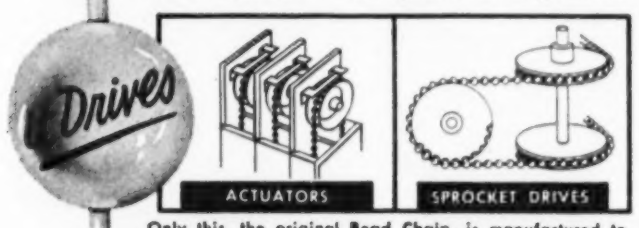
J. R. RICHARDS CO. 907 NORTH PITCHER ST. KALAMAZOO 60F, MICH.

If you write maker identify as IEN - 5910

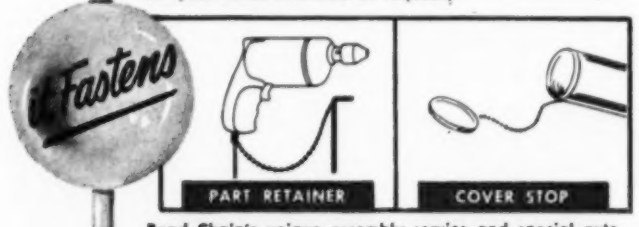
There are literally thousands of useful applications of BEAD CHAIN to all types of products, machines and tools! Consider how you may be able to take advantage of its versatility too! It pays dividends!



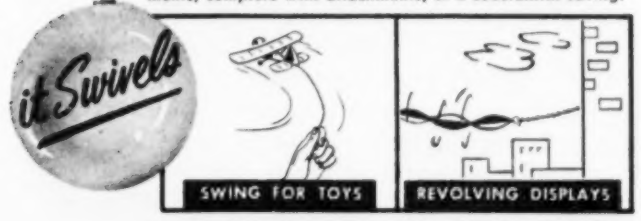
Bead Chain is available in 5 diameters from 3/32" to 3/8" with tensile strength ranging from 18 to 200 lbs. No matter what the requirement, our engineers can fill your need.



Only this, the original Bead Chain, is manufactured to such close tolerances that it can be applied at low cost to V-type or positive, non-slip sprockets. (Sprocket sources for your needs available on request.)



Bead Chain's unique assembly service and special automatic equipment can supply chain cut to your requirements, complete with attachments, at a substantial saving.



A large variety of couplings and attachments offer endless opportunities to design engineers to adopt Bead Chain without the necessity of special tooling and production.

B®

THE BEAD CHAIN MANUFACTURING CO.
BRIDGEPORT 5, CONN.
Send Me the Bead Chain Catalog.
NAME _____ TITLE _____
COMPANY _____
ADDRESS _____
KEY NO. 59

THE BEAD CHAIN MANUFACTURING CO., BRIDGEPORT 5, CONN.
Original and World's Largest Producer of Bead Chain

If you write maker identify as IEN - 5912

CASTER . . Steel swivel design for heavy duty service, 6, 8, 10 inch

Source: FAIRBANKS CO.
395 Lafayette St., New York 3, N. Y.

Welded forks

Series 27 is a new design of steel swivel caster, companion unit to Series 37 rigid casters that match in overall height in 6, 8 and 10 in. sizes. The caster is equipped with an outer ball race for the swivel action, reinforced with a Timken thrust bearing on the countersunk king bolt. Standard construction includes a replaceable bolt axle. The caster is available with semi-steel roller bearing wheels and molded plastic wheels in the 6-in. size, and with semi-steel roller bearing wheels, vulcanized rubber tired roller bearing wheels and molded plastic wheels in the 8 and 10-in. sizes.

If you write maker identify as IEN - 5913

FASTENING . . Spring steel nut with integral curved screw end shield

Source: SHAKEPROOF INC.
252 St. Charles Road, Elgin, Ill.

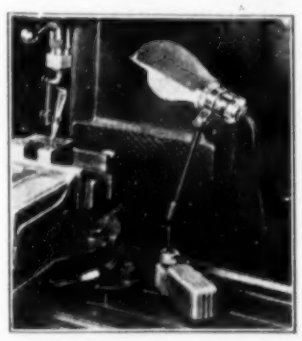
No. 6 to 5/16 inch

Illustrated is new special design of the company's standard "J" spring steel nut in which an integral section curves up and back over the nut center to act as a shield for the screw on which the nut is threaded. The nut was originally designed for use in automobile seat assemblies. It is now available for general furniture and sheet metal work where projecting screw ends are a potential source of injury or damage.

If you write maker identify as IEN - 5914

LIGHTING . . Flexible fixture equipped with permanent magnet base

Source: LUFKIN RULE CO.
1948 Hess Ave., Saginaw, Mich.



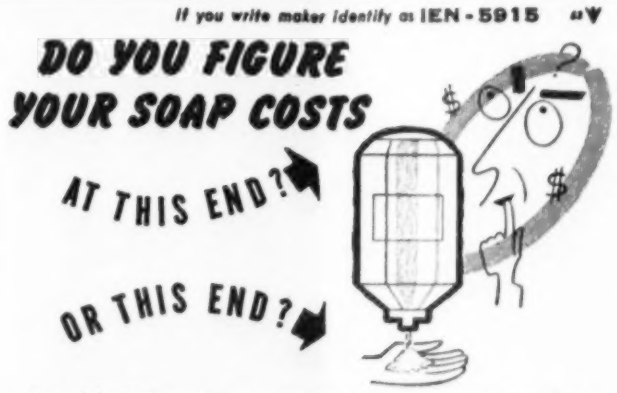
A Miti-Mite unit

Light for production, inspection, maintenance is provided by this new magnetic base Hand-Lite. It can be positioned on any ferrous metal surface where it holds securely. The extension arm is pivoted so the light can be spotted at a required height and direction.

Model 250 takes a standard lamp rating 100 watts. Model 200 takes a 25 or 40-watt lamp. Each is equipped with a reflector. List prices are $18.50 and $8.50 for the two sizes.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5915



You might think you're saving money when you pour a "cheap soap" in the top of your dispensers. Actually it's the number of washes that come out the bottom—the cost per wash—that really counts. Does your present soap lather quickly or do your workers have to use a hand full and rub and rub and rub to get results? (A slow acting soap causes congestion in wash rooms—you pay for the "lost time".) Does your present soap get hands clean with one shot or does it take half a dozen? Does it really do the job at all? Is it tough on hands? Does it cause chapping, drying or other skin irritations? Are your soap dispensers in proper working order or are they wasting soap because they're out of kilter?

Get the answer to these and other questions about your soap costs the easy way. Mail the attached coupon for a FREE "SBS Soap-Saver Survey" today at absolutely **NO Obligation** on your part.

SUGAR BEET PRODUCTS CO., SAGINAW, MICHIGAN
Chemical By-Products Division • Established 1909
Manufacturers of the complete line of SBS INDUSTRIAL SKIN CLEANSERS

SUGAR BEET PRODUCTS CO., Dept. 4E, SAGINAW, MICHIGAN
Yes—we want a cost reducing "SBS Soap-Saver Survey" of our plant without charge or obligation.
NAME _____
TITLE _____
COMPANY _____
CITY _____ ZONE _____ STATE _____

If you write maker identify as IEN - 5916

Cyclone Belts Carry Tiles Through Automatic Spraying, Drying Operations

• Cyclone Flat Wire Conveyor Belts—galvanized or stainless steel—are used to carry tiles through continuous spraying and drying operations. The wide-open areas of the belt permit sufficient air circulation and fast drainage for thorough, uniform drying. Belts average 60 to 100 feet in length, in various widths, for easy removal of tiles from belt by packing girls.

Cyclone manufactures several styles of Conveyor Belts in a variety of metals, alloys and finishes. Our experienced engineers will be glad to give you free advice on the type best suited to your operations. Get in touch with the nearest Sales Office and write Dept. C-53 for a free copy of Catalog #4.

U·S·S CYCLONE
METAL CONVEYOR BELTS

CYCLONE FENCE DEPARTMENT
AMERICAN STEEL & WIRE DIVISION
UNITED STATES STEEL CORPORATION, WAUKEGAN, ILLINOIS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS

UNITED STATES STEEL

If you write maker identify as IEN - 5917

Keep up-to-date on

VINYLITE RESINS and PLASTICS!

SEND FOR YOUR COPY TODAY

It's new, *completely up-to-date*—a fully illustrated booklet packed with technical data on VINYLITE Resins and Plastics for extrusion and molding. It will help you in the design and manufacture of parts and products produced from rigid or elastomeric molding and extrusion compounds. You'll value it as a reference book for such features as the section titled "Suggestions for the Design Engineer," or the "Average Properties Tables." Black and white and full-color photographs show typical applications.

VINYLITE Plastic *elastomeric* extrusion and molding compounds stay flexible at −67 deg. F. . . . hold their toughness, resist deformation in temperatures as high as 140 deg. F. These compounds provide smooth, glossy surfaces that can be embossed and printed. Colors—stock, made-to-order or specially matched—have excellent stability, will not bleed. VINYLITE *rigid* extrusion and molding compounds make it possible to fabricate products of sharp detail with close tolerances. Finish is smooth . . . mold shrinkage low. *All* VINYLITE Plastics have excellent resistance to moisture, mildew, abrasion, oils, greases, alkalies, most strong acids, sunlight, flame and age. They are dimensionally stable, light and strong, offer good electrical characteristics . . . can be compounded in any color—transparent, translucent or opaque.

This new booklet may show you the way to new or improved products through use of VINYLITE Plastics. Send for your free copy now. Use the convenient coupon.

Be sure to visit the Bakelite Company's exhibit at the Basic Materials Show, Grand Central Palace, New York, June 15-19

Vinylite BRAND **PLASTICS**

TRADE MARK

BAKELITE COMPANY
A Division of Union Carbide and Carbon Corp.
30 East 42nd St., New York 17, N. Y.

BAKELITE COMPANY, Dept. QE-14
A Division of Union Carbide and Carbon Corporation
30 East 42nd Street, New York 17, New York
Please send me, without cost or obligation, a copy of booklet M-2, "VINYLITE Resins and Plastics."
Name _____ *Title* _____
Company _____
Street _____
City _____ *State* _____

If you write maker identify as **IEN - 5919**

The Hole-in-One

Once in a lifetime — and only to a few will come this exhilarating experience. The rest of us will have to be satisfied with an occasional "deuce".

To those who require many holes, accurate in size and shape, uniformly spaced over the whole or restricted areas of sheets and plates, we have the answer. For 70 years we have devoted our efforts to the business of perforating sheets and plates of all the metals as well as plastics, hardboard and even plywood. Holes so small that there are nearly a thousand to a square inch. Holes the size of marbles, of golf balls, baseballs — even basketballs. Holes that are square, slotted, triangular and ornamental.

Whenever you require perforated materials, send us your specifications, because —

If it can be perforated, H & K can do it!

The Harrington & King Perforating Co.

5637 Fillmore Street, Chicago 44, Illinois
114 Liberty Street, New York 6, New York

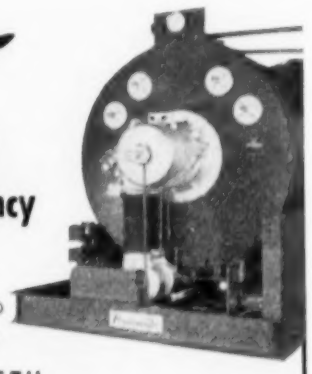
Our Catalog No. 62 sent gratis on request.

If you write maker identify as **IEN - 5920**

Now-

83% guaranteed minimum efficiency with No. 6 oil

ANOTHER *Powermaster*® "FIRST"



● Compare ASME tests on *Powermaster* with those of any other boiler. You'll see why the automatic *Powermaster* with VORIFLOW combustion is your best buy in packaged boilers. *Powermaster* efficiency actually *increases* at less than full load (which is normal field operation). Start cutting your steam costs today by getting full information on the installation, operating, and maintenance economics of *Powermaster* —15 to 500 HP units for steam generation to 250 psi, and hot water to 30 psi. ASME Code construction. Approved by Underwriters' Laboratories.

Write Now to:

ORR & SEMBOWER, INC.

860 Morgantown Road, Reading, Pa.

BUILDERS OF COST-SAVING BOILERS SINCE 1885

If you write maker identify as **IEN - 5921**

S.S.WHITE "AIRBRASIVE" UNIT

uses a gas-propelled stream of abrasive particles to perform a variety of operations, including controlled removal of surface coatings, cutting, drilling, etching and finishing.

The cutting action is extremely cool and involves no vibration or pressure. Cuts can be held as fine as .018" in diameter.

The unit is ideal for precision work on electronic parts, glass, ceramics, metal and many other materials.

For complete information write for Bulletin 5212

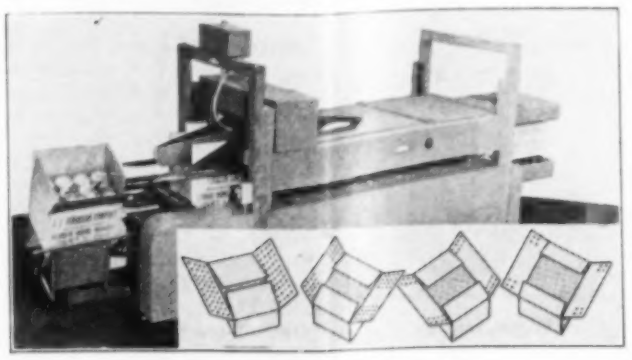
THE S.S.White INDUSTRIAL DIVISION
DENTAL MFG. CO.
Dept. NA, 10 East 40th St.
NEW YORK 16, N. Y.

WESTERN DISTRICT OFFICE: Times Building, Long Beach, California

If you write maker identify as **IEN - 5922**

PACKAGING . . Carton sealer applies glue, folds and holds flaps

Source: J. L. FERGUSON CO.
Republic Ave. at Route 52, Joliet, Ill.



Employs regular liquid case glue

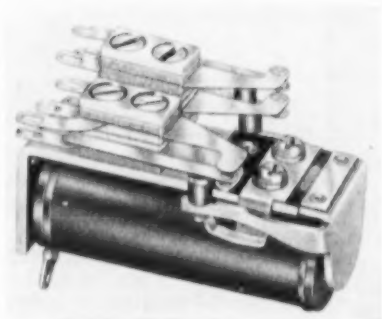
The operator of this new Packomatic gluing and sealing machine fills a carton and moves it forward to actuate a switch at the entering end of the machine. This starts a motor drive to a conveyor which carries the carton into the machine where it actuates a cam to start the action of a set of brass jet nozzles. They apply glue in a spot pattern on the inside flap surfaces. Continuing movement folds the flaps down and carries the closed carton between upper and lower compression sections. Then the machine stops and holds the carton closed until the operator fills and starts another.

The jet nozzles are positioned on ¾-in. centers. They can be set to deliver various patterns of glue for given carton designs, as indicated in the illustration. The machine will take cartons measuring 8 to 24 in. in length, 6 to 16 in. in width, 5 to 18 in. in height. It will handle eight cartons per min. measuring 12 in. in length. The glue feeds by gravity from a small rectangular container through transparent plastic tubes to the nozzles. The machine can stand over night without removing the glue. It can be started the following morning after wiping off the applicator nozzles with a damp cloth.

If you write maker identify as **IEN - 5923**

RELAY . . Multiple contact unit custom engineered to specification

Source: COMAR ELECTRIC CO.
3347-51 W. Addison St., Chicago 18, Ill.



Telephone type

A long core characterizes the construction of this new Type T-J relay for sensitive action and to suit the unit for use in circuits involving pull-in and drop-out time delay. The relay is available for operation with coils rating to 110-volt dc. and contact combinations to 4-pole double-throw or 6-pole single-throw.

The silver contacts rate 3 amp. on 110-volt ac. Contacts made of palladium or other materials can be specified. The windings are insulated to withstand 1,000-volt ac. The metal parts are plated to resist corrosion.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 5924**

Take the "JERKS" out

Are you tearing your hair over—
Smoking, "killing" motors? Breaking drives? Overloaded circuits?
Lugging, stalling engines? Damaged equipment? Excessive maintenance?
Then it's time to take the "jerks" out with Twin Disc's power-smoothing HYDRO-SHEAVE® Drive. Call your Twin Disc Hydraulic Dealer *today*—ask for Bulletin 145-B.

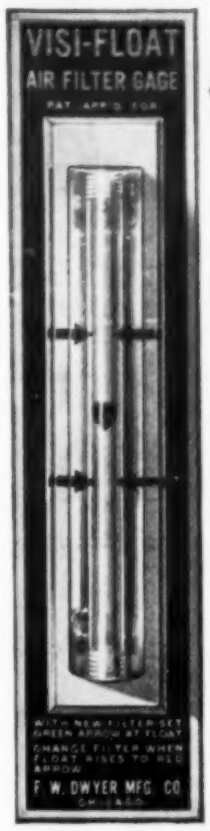
HYDRO-SHEAVE Drive—The Hydraulic Coupling unit for motors or engines, ¼ to 50 hp.

TWIN DISC
CLUTCHES AND HYDRAULIC DRIVES

TWIN DISC CLUTCH COMPANY, Racine, Wisconsin • HYDRAULIC DIVISION, Rockford, Illinois

BRANCHES: CLEVELAND • DALLAS • DETROIT • LOS ANGELES • NEWARK • NEW ORLEANS • SEATTLE • TULSA

If you write maker identify as **IEN - 5925**



New FILTER GAGE!

DWYER

VISI-FLOAT

ONLY $3.25

First gage of its type for **permanent** mounting on forced air units. Low-cost . . . foolproof . . . self-operating. Tells at a glance from face of heater, air-conditioner, or ventilator when filters are clogged and need replacement. No liquids, no mechanical parts to break down. VISI-FLOAT comes ready to use. A clear, lifetime, lucite body with a floating indicator. Connected across filter, and reacts constantly to varying pressure drop due to dirt accumulation. Lasts the life of the unit. Just drill two holes and mount. Let VISI-FLOAT cut fuel bills, allow more and cleaner air flow, reduce blower failure and repairs.

Send for descriptive folder.

F. W. Dwyer Mfg. Co.

307 S. WESTERN AVE. • CHICAGO 12, ILL.

If you write maker identify as **IEN - 5926**

* Materials Handling Exposition
Philadelphia, May 18-22, incl.

Series 13, long top plate

Series 12, wide top plate

ALBION'S VERSATILE NEW SERIES 12 AND 13 CASTERS

Albion's two completely new industrial series, 12 and 13, have wider, extra-long formed steel top plates to afford greater flexibility with a broader variety of bolt hole spacings that will solve practically any attachment problem. Conservatively rated as medium duty industrials, they are built in a wide range of both rigid and swivel models in wheel diameters from 3¼" to 8". Steel wheels or Texite, Moldon, Rolite and No-flex are available for greater floor protection and super-smooth operation.

Be sure to see the new Series 12 and 13 Casters in Albion's booth, No's 315-317 and, if you can't make it, why not ask for your copy of the new illustrated specification sheet on these versatile new casters.

Don't delay . . . see 'em today—or contact your nearest Albion representative! Write, wire or phone:—

ALBION INDUSTRIES, INC.
ALBION, MICHIGAN

If you write maker identify as IEN - 5928

Here's why it pays to use BRISTOL'S SOCKET CAP SCREWS

- easier, faster setting for speedy assembly
- greater holding power, shock and vibration-resistance
- they permit more compact design, with smooth, flush surfaces for safety and streamlining

No delivery problem—adequate stock is always on hand to fill orders without delay. Write today for your free copy of Bristol's 40-page socket screw catalog. A.3.7

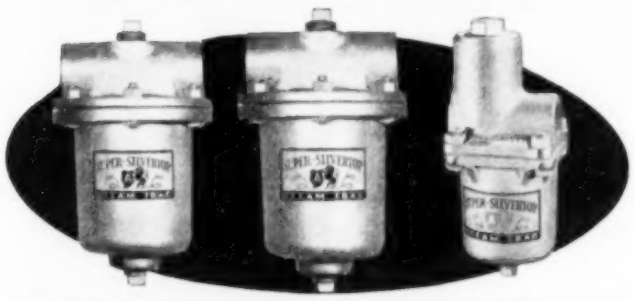
BRISTOL'S SOCKET SCREWS

Hex and Multiple-Spline Socket Screws, Cap and Set

THE BRISTOL COMPANY, Socket Screw Division, Waterbury 20, Conn.

If you write maker identify as IEN - 5929

WHICH STEAM TRAP *For Your Steam Lines?*



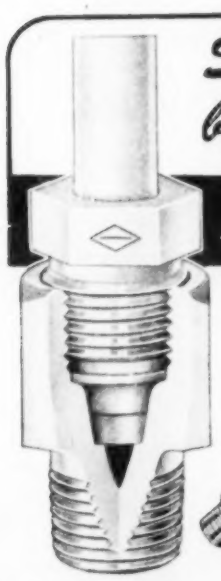
Standard Inverted Bucket Trap . . .	Air Eliminator Steam Trap . . .	Series B Steam Traps . . .
NORMAL AIR ELIMINATION	FAST AIR ELIMINATION	EXTREMELY FAST AIR ELIMINATION

PRESSURES . . . to 700° P.S.I.
TEMPERATURES . . . to 800° F.
CAPACITIES . . . to 48,600 lbs. per hr.
SIZES . . . 1/2" to 2"
MATERIALS . . . Cast semi-steel and steel

SUPER-SILVERTOP steam traps installed straight in line or as an elbow serviced without disturbing a single fitting

FREE Write for 36-page manual "Solving Steam Trap Problems" showing how to select traps for any application. Address the V. D. Anderson Company, 1931 West 96th Street, Cleveland 2, Ohio.

If you write maker identify as IEN - 5930



Saves man hours by faster assembly

Hi-Duty® FITTING

AVAILABLE IN BRASS OR ALUMINUM

For tubing from 1/8" to 3/4" O.D.

EASIER AND QUICKER TO ASSEMBLE

Fitting comes with nut assembled. Simply push tube into fitting and tighten nut. No loose sleeve to contend with . . . no tube flaring required. Makes repeated tight reconnections.

MORE CAPACITY TO WITHSTAND VIBRATION

because tubing deformation is kept at a minimum. Imperial Hi-Duty Fittings withstand over 5 times as much vibration as joints made with Compression or Flared brass fittings.

Ask for Catalog 3500 and Bulletin 365 for complete information.

See Your Supply House

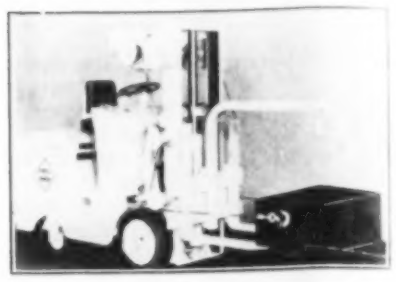
THE IMPERIAL BRASS MFG. CO., 508 S. Racine Ave., Chicago 7, Illinois

IMPERIAL Pioneers in Tube Fittings and Tube Working Tools

If you write maker identify as IEN - 5931

TRUCK . . Electric fork lift with power winch to handle press tools

Source: ELWELL PARKER ELECTRIC CO.
4060 St. Clair Ave., Cleveland 3, Ohio



Removable crane boom

Press tools weighing 1,500 lb. can be pulled on and off the lift fork in this new assembly 2-ton fork lift trucks. It is intended primarily to handle heavy tools between the tool room, storage and presses. It is equipped with 42-in. forks and also with a 42-in. boom, the latter supplementing the motor driven winch that is mounted on the uprights. The uprights are non-telescoping design measuring 83 in. in height for a 66 in. lift range.

The truck is equipped with worm and spur gear drive transmission, caster type trailing axle, hydraulic lift. It operates in four speeds, forward and reverse, with time controlled acceleration. It stands in locked position unless the operator is in his seat. His weight releases it.

If you write maker identify as IEN - 5932

HOSE . . Rubber type, rayon cover, identifying colors, bore to 1/4 inch

Source: HAMILTON RUBBER MFG. CORP.
P. O. Box 361-A, Trenton 3, N. J.

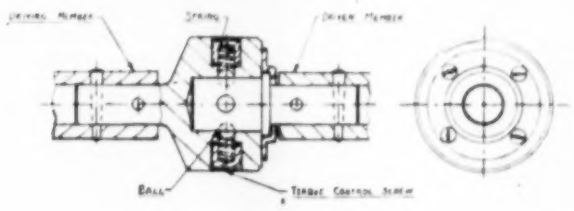
Sample available upon request

New hose to handle water or air at medium pressures has been added to the company's rayon or cotton covered rubber tube line. The hose applies also as a product component in equipment requiring only light pressures. The braided cover can be specified in identifying colors.

If you write maker identify as IEN - 5933

DRIVE . . Ball and socket clutch to provide overload release action

Source: OVERLOAD CONTROL CO.
262 Langston Ave., Glen Oaks, N. Y.



Adjustable in the field

Four steel balls are spring backed in the driving flange of this new Overload Control clutch. The balls ride in depressions in the hardened end section of the driven stud. Overload, beyond the setting of the springs, causes the balls to back out of the sockets and release the drive. The clutch can be operated in either direction. It requires no lubrication. The company is prepared to supply a size suited for specified duty.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5934

HERE'S WHY . . .

- Our files are full of testimony to the substantial dollar savings effected by a Trabon oil or grease system.
- The Trabon system is completely sealed and works equally well buried in dust, dirt and grime, ice, steam or under any other difficult operating condition.
- The Trabon system is *positive*. Each feeder delivers the proper amount of lubricant to the bearing before moving on to the next one.
- A single indicator at the pump tells the complete story of the lubricating cycle.

The long list of satisfied repeat customers we have are the best reason why there are more Trabon Automatic Lubrication Systems in industry than all other makes. We'll be glad to give you their names. Or, Bulletin 529 will provide you with more information.

Trabon Automatic Lubrication Fits Any Bearing Situation.

Trabon ENGINEERING CORPORATION 1814 E. 40th STREET • CLEVELAND 3, OHIO
Oil and Grease Systems

If you write maker identify as IEN - 5935

I'M FOREVER BLOWING TROUBLES!

I'm a Clements-Cadillac blower-suction cleaner. I keep your machinery clean . . . no troublesome Dirt, Dust, and Grime gremlins will slow down your smooth operation with me around. I'm a cleaning tool that reaches every nook in all types of equipment.

SAVE TIME • MONEY PREVENT DAMAGE TO MACHINERY WITH THE . . .

Made in 5 models with attachments for every cleaning job.

PORTABLE COMBINATION BLOWER-SUCTION CLEANER

CLEMENTS CADILLAC

CLEMENTS MFG. CO.
6620 S. NARRAGANSETT AVE. CHICAGO 38, ILL.

ASK YOUR MILL SUPPLY DEALER OR WRITE US FOR DATA

If you write maker identify as IEN - 5936

Simple operation beats five o'clock deadline

At the Symington-Gould Corporation, Depew, N. Y., extensive revisions are made on drawings . . . and prints are ready for mailing to customers—hours, even days, ahead of the old schedule.

See how it's done—all so easily—with Kodagraph Repro-Negative Paper . . . another versatile photographic material in the famous Kodagraph line.

1. A basic drawing—which must be revised to meet the individual customer's specifications—is exposed on Kodagraph Repro-Negative Paper in a standard print-making machine; then the print is processed in standard photographic solutions. An easy *roomlight operation* that produces a negative photographic intermediate from the original drawing.

2. The draftsman quickly obliterates the unwanted detail on the Kodagraph Repro-Negative print with opaquing ink. From this print, a positive Repro-Negative copy is made; the draftsman simply adds the new design . . . and a print-making master is ready to produce the required number of customer prints. *Ready* in a fraction of the time required when the unchanged design was retraced in full.

Symington-Gould also saves time and dollars with Kodagraph Autopositive Paper and Cloth, which are processed in the same easy manner as Repro-Negative Paper, but produce positives *directly* from the originals.

Write for free copy of "Modern Drawing and Document Reproduction." It gives details on the revolutionary Kodagraph line, which you, or your blueprinter, can process . . . quickly, economically.

Kodagraph Reproduction Materials

"THE BIG NEW PLUS" in Engineering Drawing Reproduction

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak TRADE-MARK

If you write maker identify as IEN - 5938

You Get the BEST!

in
METAL
STAMPINGS
WASHERS
PARTS
ASSEMBLY
WORK
from

Quadriga

SEND TODAY FOR THIS VALUABLE 16-PAGE BOOKLET

Contains complete data on:

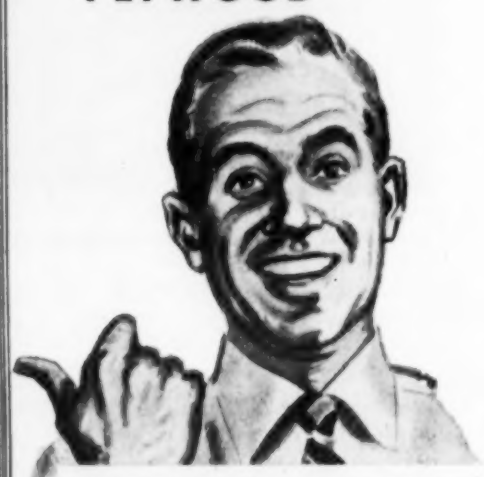
TENSION WASHERS
FRICTION WASHERS
FINISHING WASHERS
WIRE TERMINALS
BLANKING DIES
DISHED BLANKS
GENERAL STAMPINGS
PROGRESSIVE AND COMPOUND DIES
STANDARD GAUGES

We have a press capacity up to 150 tons—depth of draw to 4 in.

THE QUADRIGA MANUFACTURING CO.
215A West Grand Avenue • Chicago 10, Illinois

If you write maker identify as IEN - 5939

MAINTENANCE PROBLEMS?
TRY
GPX®
PLASTIC-FACED PLYWOOD



GPX offers an unbeatable combination of unique properties in a maintenance material. It is made from top-quality Douglas Fir Plywood surfaced with a hard, smooth overlay of phenolic resin plastic. It *never* needs painting or other preservative treatment. GPX is smooth, strong and easy-to-work. It is highly resistant to weather, water, abrasion, chemicals and vermin.

GPX has already proved itself in more than sixty different uses, including industrial tables, freezer walls, humidity chambers, fume ducts, drying boards, foundry match plates, sorting tables, interior and exterior walls, and many more. Write for free information. Find out how GPX can help you solve your own maintenance problems.

GEORGIA—PACIFIC
PLYWOOD COMPANY
Dept. E, 616 North Capitol Way, Olympia, Wash.

For complete data, fill in and mail this coupon today

Georgia-Pacific Plywood Company E-614
Plastic Plywood Division
Marsh Street, Port Newark 5, N. J.

Please send me the GPX Technical Manual and Folder.

Name
Position
Firm Name
Address
City Zone State

If you write maker identify as IEN - 5941

GENERATOR . . Mobile power unit and sump pump for workers in manholes

Source: S. & G. MFG. CORP.
1015-19 Magazine St., New Orleans 10, La.

Safe operating power

Electric power to drive portable tools, operate soldering irons, heaters, lights, a pump to drain water, and safe low voltage current for control and signaling circuits are provided by this new mobile power unit. It is particularly suited for workers in manholes. The engine driven generator is a Kohler assembly delivering 1,500 watts on 110-volt dc. and also 6-volt independent dc., the latter to a circuit that includes a battery charging generator and storage battery. Connecting through a Warner electric clutch is a 2-in. 2,500-gph. diaphragm pump.

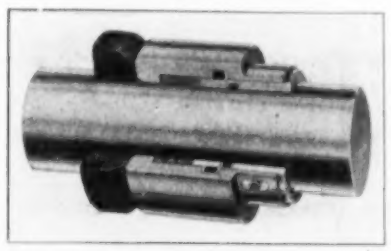
All circuits, including one to signal a helper, are controlled through the 6-volt circuit so a worker in a manhole is in no danger of electric shock.

A switchboard at one end of the assembly mounts five twist-lock receptacles for 110-volt circuits and three for the 6-volt circuits. Suction and discharge hose lines, 15 ft. in length, ride racks on the unit when they are not in connected position on the pump. A telescopic mast mounts a 300-watt 110-volt lamp and shade. It can be raised to about 8 ft. above the ground. A red blinker light is on its top.

If you write maker identify as IEN - 5942

SEALING . . Self-contained assembly prevents axial leakage along a shaft

Source: GARLOCK PACKING CO.
248-52 Main St., Palmyra, N. Y.



Balanced Type OB

Rotating shafts, as on centrifugal pumps, are sealed against leakage by this new O-Ring assembly. It consists of a stationary member that seals in the packing space and rides free on the shaft, a spring backed rotating member that bears against a lapped face, and a driving sleeve that bears axially against the spring and is secured by set screw to the shaft. The sleeve and the rotating member are both sealed with O-rings.

The seal is available in an unbalanced Type O for pressure to 200 pounds. It also is made in the balanced Type OB shown in the illustration. The balanced design will handle pressure to 1,000 pounds. A drive pin can be supplied in place of the driving sleeve in both designs. Type O applies in packing space measuring 5/16 in. or larger, or in a 1/4-in. space under certain conditions. Type OB applies in a 3/8-in. space or larger.

The O-rings are available in teflon, Buna-N, neoprene, silicone. The metal parts can be specified to operate satisfactorily in the presence of any liquid, mild, harmfully corrosive, extremely hazardous, as required.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5943

for ECONOMY—and EFFICIENCY

GRIPCO
LOCK NUTS

SAVE... on FIRST cost
Simplified design makes possible much lower price

SAVE... on APPLICATION cost
Fast Application cuts production time—and cost

DUPLICATE THE SAVINGS OF THESE GRIPCO USERS

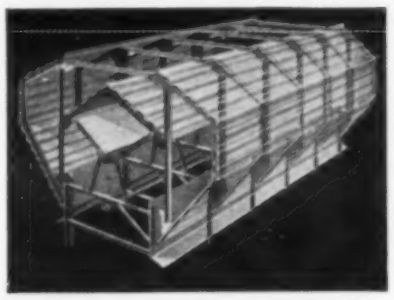
MAKE SIMILAR SAVINGS ON ALL GRIPCO NUTS

NEW GRIPCO "CLINCH" NUTS • GRIPCO HI-NUTS • GRIPCO PILOT-PROJECTION LOCKING WELD NUTS • GRIPCO COUNTERSINK LOCKING WELD NUTS

Write for samples, mentioning types and sizes of nuts you use. 286 IEN

GRIP NUT COMPANY
310-S S. MICHIGAN AVE., CHICAGO 4, ILL.

If you write maker identify as IEN - 5944



PRODUCTION GOES UP • ILLNESS AND ABSENTEEISM GO DOWN WITH
BURT MONOVENT

Where high heat or fume conditions require the removal of large volumes of air, the Burt Monovent moves more air per dollar than any other ventilator. Installed as a continuous unit the entire length of the building, the Monovent converts the roof line into a giant exhaust valve. Uniform ventilation is provided. Maintenance is minimized. Long life is assured by Burt's careful engineering and sturdy construction. Reduced "time off" losses and increased production soon pay back installation costs. See Sweet's or write for Bulletin SPV-4.

FAN & GRAVITY VENTILATORS • LOUVERS • SHEET METAL SPECIALTIES

The Burt Manufacturing Company
909 So. High Street Akron 11, Ohio

If you write maker identify as IEN - 5945

NORTH-Erie's NEW
QUICK OPENING
DOORS and COVERS
FOR PRESSURE OR VACUUM VESSELS

GUARANTEED CONSTRUCTION
U-69 A.S.M.E. CODE
ALL SIZES AND TYPES FOR
RETRACTABLE SHELL OR
ANY STATIONARY TANK
NOW AVAILABLE UP
TO 12 FT. DIAMETER AND
EVERY DESIRED PRESSURE.
EASY TO OPEN AND CLOSE
DAVIT TYPE SUPPORTS

Write for...

NEW TECHNICAL DESCRIPTIVE *Catalog*

NORTH Erie

THE H. W. NORTH CO.
1743 PARADE STREET
ERIE, PENNSYLVANIA

SPECIAL PURPOSE MACHINERY and EQUIPMENT for the BASIC INDUSTRIES

If you write maker identify as IEN - 5946

Strange Perhaps... But They Are Related!

Masland Duran . . . "Folded-and-Formed" Heating Elements. What's the connection? Well, in the manufacture of Duran, the popular all-plastic material for fine upholstering, the process includes heating and curing in ovens equipped with Trent Patented

"FOLDED-and-FORMED" Heating Elements

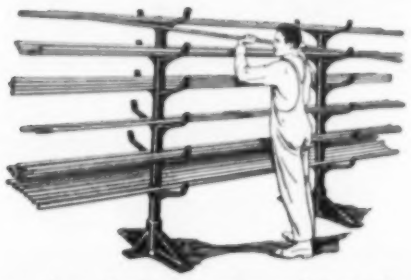
This is another example of a *quality* product produced with the help of these *quality* heating elements . . . unequalled in efficiency, durability and economy.

"Folded-and-Formed" Heating Elements are made in Standard and Custombuilt Racks to meet any installation or K. W. requirement. What is your heating problem?

TRENT INC.
Electrically Heated Industrial Equipment
247 LEVERINGTON AVE. PHILA. 27, PA.

If you write maker identify as IEN - 5947

for EFFICIENT HANDLING and ORDERLY STORAGE



You save time, both in storing and in issuing, when you use Brown Sectional Racks. Open sides speed handling. Complete visibility permits quick selection to save waiting mechanics time.

Maximum flexibility in arrangement is possible because each Brown Rack is independent and self-contained, need not be bolted to floor. Easily relocated. Systemized storage with Brown Racks promotes good housekeeping, cleanliness.

All iron and steel construction, can't burn, bend, sag or warp. Never wear out.

Get these values now! Write for complete specifications and prices on wide range of models and sizes. Brown Engineering Co., 122 N. Third St., Reading, Pa.

BROWN QUICK-SERVE RACKS

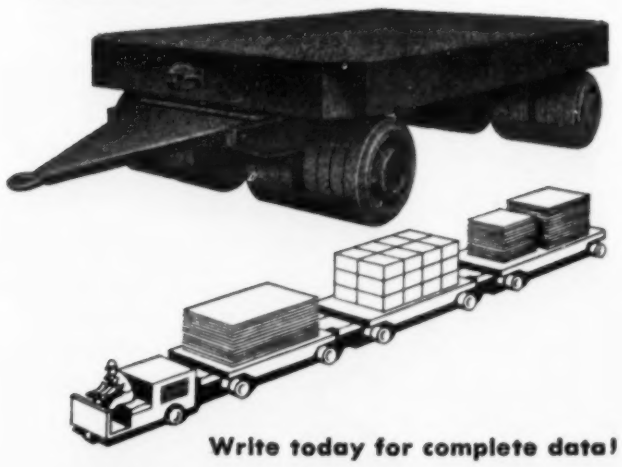
If you write maker identify as IEN - 5948

Phillips INDUSTRIAL TRAILERS

- ✓ FOR HAULING ALL KINDS OF INDUSTRIAL PRODUCTS—MATERIALS
- ✓ MADE IN SIZES AND CAPACITIES TO MEET YOUR NEED
- ✓ FEATURE TIMKEN BEARINGS PNEUMATIC OR SOLID TIRES ALL STEEL WELDED CONSTRUCTION

MODEL TF-60
6000 lb. Capacity

MODEL TD-1200
120,000 lb. Capacity



Write today for complete data!

Phillips Industrial Trailers simplify hauling of heavy loads in and around industrial plants . . . with substantial savings in time, effort, and money. Ruggedly built to withstand long, hard usage, these trailers are available in capacities from 6,000 to 120,000 pounds. Easily maneuverable — they can be used singly or in tandem, for every industrial hauling requirement.

MANUFACTURERS SINCE 1863 **PHILLIPS** MINE AND MILL SUPPLY COMPANY PITTSBURGH, PA.

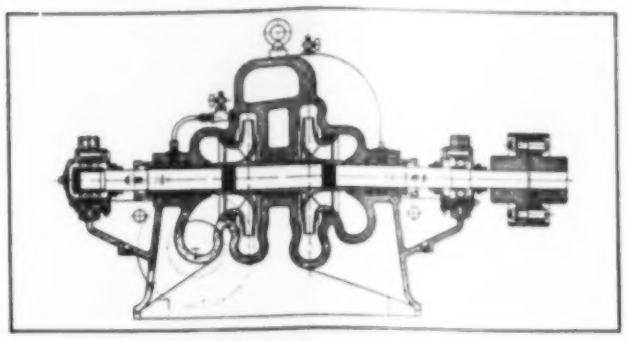
MATERIALS HANDLING EQUIPMENT

2500 JANE STREET • PITTSBURGH 3, PA.

If you write maker identify as IEN - 5950

PUMP . . Multi-stage centrifugal to handle water and clear liquids

Source: PEERLESS PUMP DIVISION
West Ave. 26 & Humboldt, Los Angeles 31, Calif.



Specifications in Bulletin B1400

Type TU is a new design of 2, 3, 4 and 5-stage split case centrifugal pumps in cast iron, bronze fitted, all bronze or steel construction. In each case the shaft is mounted on ball bearings with grease lubrication and provision to cool the bearing housing externally. Drive can be specified for motor, engine or turbine. The split case is designed so the rotating element can be removed for inspection and repair without disturbing the alignment or piping.

The smallest two-stage assembly, shown in the illustration, is available in capacities to 3,000 gpm. with head to 800 feet. Sizes range from 1½ to 8 in. at the discharge port. The three-stage pump provides for heads to 950 ft. and capacity to 1,400 gpm. The four-stage assembly ranges to 1,600 ft. and 900 gpm. The five-stage pump rates to 1,550 ft. and 300 gpm. All rate liquid temperatures to 300 deg. F.

If you write maker identify as IEN - 5951

PRINTING . . Ammonia type machine exposes and dry develops at 8 fpm.

Source: PECK & HARVEY
5633 N. Western Ave., Chicago 45, Ill.

Speed Master

Model S is a new whiteprinter to make black or color line prints from tracings, drawings, sketches, layouts, records, charts, data sheets, letters or any translucent original sheet, drawn, written, typed, printed or photographed. It employs a 2,000-watt high pressure jacketed glass Vicor lamp for exposure or printing speed from 6 ipm. to 14 fpm. Dry ammonia gas develops at 8 fpm.

The machine takes rolls or cut sheets to 42 in. in width. It delivers the originals and finished work at the front. Ammonia feed is visible and can be controlled. A switch controls a venting blower. Variable temperature control compensates for varying weights and grades of sensitized sheet. Operation is on 220 volt 60-cycle ac. Dimensions are 68 by 24 by 62 inches. List price is $1,565.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5952

THE PROBLEM

How to weigh large castings conveniently and accurately.

This 35 ton steel casting was easily weighed by placing three Baldwin SR-4 Load Cells under it.

THE BALDWIN SOLUTION

Baldwin SR-4 devices enabled a large Eastern foundry to weigh faster and more accurately this huge semi-rotor, built for a Canadian hydro-electric plant. Three 50,000 lb. SR-4 Type C Load Cells were used. Output of each cell ran to an SR-4 manual null-balance indicator. Here each cell was read separately and totalled; other cases might better use an SR-4 weighing system electrically adding cell outputs.

Baldwin SR-4 devices have *uses unlimited* in industry . . . measuring load, pressure or torque economically, speedily and accurately. For latest technical information write to Dept. 3113, Baldwin-Lima-Hamilton Corporation, Philadelphia 42, Pa.

TESTING HEADQUARTERS

BALDWIN-LIMA-HAMILTON
General Offices: Philadelphia 42, Pa. • Offices in Principal Cities

If you write maker identify as IEN - 5953

STRAP YOUR SHIPMENTS EASIER — FASTER — MORE ECONOMICAL

The **INLAND WAY**

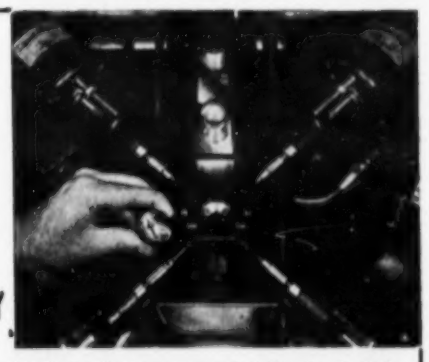
Here is a combination that really adds up to production-line operation. Inland's Model "T" Speed-Flo Round Steel Strapping Machine is shown mounted on handy spring suspension — always handy and ready for any size package. Inland's Speed-Flo Round Steel Strapping, dispensed from special, sturdy holder, feeds freely and kink-free to machine to give you maximum insurance against pilfering or breakage. The Model "T" is designed for both standard galvanized and high tensil strapping 14, 15 and 16 gauge. This combination will solve the most difficult strapping problem at a saving. Other models and weights of strapping available.

Write or phone for complete data.

INLAND WIRE PRODUCTS CO.
3963 South Lowe Avenue Chicago 9, Illinois
Phone: YArds 7-3113

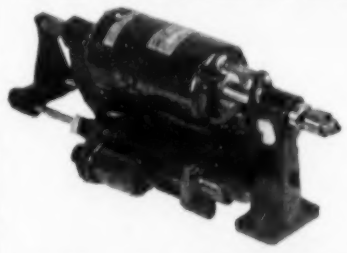
If you write maker identify as IEN - 5954

SMALL HOLE DRILLING SPEEDED AUTOMATICALLY



. . . and at low cost with Electro-Mechano compact drill units. Typical set-up above is used by a Racine screw machine company; four units drill #50 holes in stainless steel fuel nozzle caps. Production was increased from 40 to 190 pieces per hour.

These fast acting complete drill units speed up many simple drilling jobs and simplify complicated multi-spindle jobs. Direct electric motor drive variable speed spindle provides 1000 to 10,000 or 2500 to 15,000 RPM; employs economical air feed with adjustable hydraulic rate control. Supplied in pad or column mount, with manual, electric or automatic trip; drill cap. .004 to .156". Precision sensitive bench and floor models available up to ½" cap.



FOR SIMPLE OR COMPLICATED SET-UPS

get more information, write for bulletin I-109

THE ELECTRO-MECHANO CO.
269 E. ERIE ST. MILWAUKEE 2, WIS.

If you write maker identify as IEN - 5955

standardize on standard

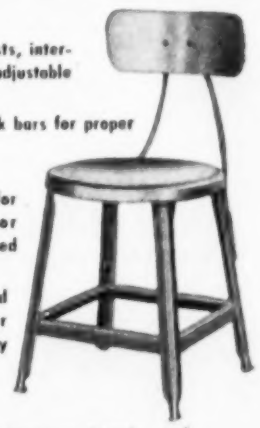
HALLOWELL

POSTURE STOOLS AND CHAIRS

designed for comfort while working

LOOK AT THESE FEATURES

- Posture back rests, interchangeable and adjustable
- Spring steel back bars for proper posture
- Seats designed for comfort, plain or Presdwood covered
- Angle braces and angle legs for strength and rigidity



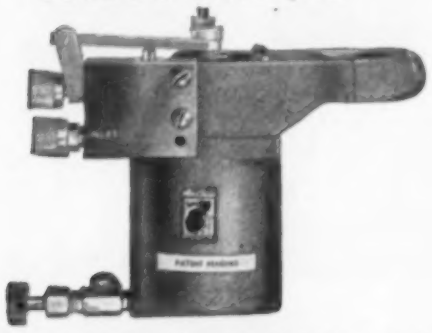
This and other HALLOWELL Posture Stools and Chairs are stocked and sold by leading industrial distributors. Write for literature. SPS, Jenkintown 14, Pa.

Our Fiftieth Year : A START FOR THE FUTURE

HALLOWELL SHOP EQUIPMENT DIVISION **SPS** JENKINTOWN PENNSYLVANIA

If you write maker identify as **IEN - 5956**

DOUBLE YOUR DRILL PRESS OUTPUT FOR $33



USE A NEW MEAD PNEUMATIC

DRILL PRESS FEED *for* **DRILLING REAMING TAPPING**

This simple, inexpensive device quickly converts standard drill presses into semi-automatic machines—increases production substantially on suitable jobs: double or more in some cases.

Clamps to spindle quill in a few seconds. Automatically closes air fixture on work. Adjustable feed control and break-through cushion. Quick-return. Easy to synchronize with automatic cycle equipment.

Air-Power does it quicker, cleaner, better. Write today for latest complete catalog.

MEAD
SPECIALTIES COMPANY

4114 NO. KNOX AVE., DEPT. EA-53-A, CHICAGO 41, ILL.

If you write maker identify as **IEN - 5957**

Don't walk—TALK with Executone Intercom!

No need to waste time shuffling back and forth for information and instructions. Just push a button and *talk!* Walking time becomes *production* time. With Executone roving employees are located instantly...telephone lines are kept open for outside calls...more work gets done *faster!* Thousands of installations prove that Executone cuts costs and increases production—*pays for itself many times over!*

Executone
INTERCOM AND VOICE PAGING SYSTEMS
Service on your premises by factory trained technicians

Get the Facts! EXECUTONE, INC., Dept. E-5
415 Lexington Ave., New York 17, N. Y.

Without obligation, send booklet describing how Executone helps cut costs. I am particularly interested in:

- ☐ Plant-office communication
- ☐ Locating personnel
- ☐ Switchboard relief
- ☐ Penetrating high noise levels

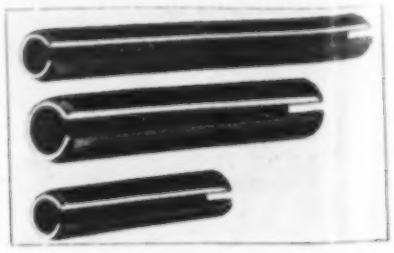
Name_____ Title_____
Firm_____
Address_____ City_____

In Canada—331 Bartlett Ave., Toronto

If you write maker identify as **IEN - 5959**

FASTENING . . Split cylindrical pin to key, pin, bush equipment assemblies

Source: STANDARD PRESSED STEEL CO.
Box 732, Jenkintown, Pa.



Ask for Sel-Lok Bulletin

The company announces purchase of the production equipment, inventory, patents pending and other assets of the Self-Lock Fastener Corporation and is now in production on the Sel-Lok split cylindrical pin, previously described IEN-11094-52. Nine sizes range from 0.062 to 0.500 inch. The smallest is in nine lengths from 0.250 to 0.750 inch. The largest measures 0.625 to 3.500 in. in 21 lengths. Special sizes are available on quantity order.

The fastener supplements the company's lines of socket screws, dowel pins, pressure plugs, locknuts. It is made of heat treated spring steel and is equal in strength to a cold rolled steel pin of the same size. Standard and light duty wall thicknesses are carried in stock. Carbon steel, corrosion resistant steel, copper-base and aluminum-base alloys can be specified. Cadmium or zinc plating also is available.

If you write maker identify as **IEN - 5960**

CONVEYING . . Ball bearing trolley assembles with chain on I-beam track

Source: MATHEWS CONVEYER CO.
192 Tenth St., Ellwood City, Pa.

600 lb. per trolley

Chromium steel balls, a little under ½ in. in diameter, are held in a pressed steel cage to ride in hardened inner and outer raceways in this new Loadstar chain conveyor trolley. The outer race also is the wheel tire. It is hardened and ground. It measures about 3¼ in. in greatest diameter to ride on a 4-in. I-beam. The bracket is a two-piece steel forging. The inner face of the wheel assembly is sealed with a steel plate. The outer face carries a steel labyrinth seal, plain for high temperature, felt filled for normal duty.

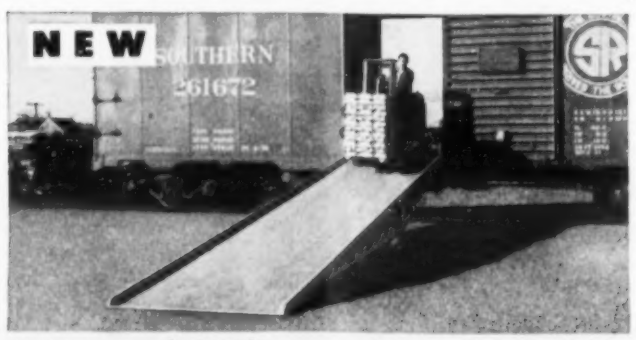
The trolley can be supplied with lubricant fittings and can be grease packed at the factory when one or both are specified. The conveyor normally employs No. X-458 connecting chain for horizontal or vertical curves and straight runs.

Identify as **IEN - 5961**

Tank, holding 400 gallons of weed-killing liquid, mounts with a pump and small gasoline engine on a four-wheel push car to ride a railroad track. The pump delivers through spray heads on wing pipes that extend to the two sides of the track. Weeds are eliminated in a 16-foot spray width at travel speed to six miles per hour. W. T. Cox Company makes the equipment.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 5962**



A Rugged High-Speed Loading Dock ...Where and When You Want It!

MAGCOA'S Portable MAGNESIUM YARD RAMP

• One man moves it! • Hydraulic lift positions it! • Material starts to move, fast! You get fuller use of present facilities, lift trucks and operators—less idle time. You cut demurrage charges . . . eliminate additional investment in inflexible, immovable dock facilities.

Magcoa engineering and manufacture converts light-weight magnesium into a rugged, heavy-duty Yard Ramp . . . braced like a bridge . . . for your specific requirements. Capacities to 16,000 lbs. in five basic sizes—or a "special"—delivered with usual Magcoa promptness, thanks to mass production methods.

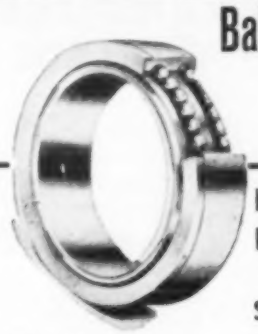
More than 1000 companies are already looking into how the new Yard Ramp can save them money. Free new literature can help you do the same thing. At the same time learn how light-weight, heavy-duty Magcoa Dockboards can save time and money on stationary docks. Write today.

MAGNESIUM COMPANY OF AMERICA
MATERIALS HANDLING DIV. • EAST CHICAGO 14, IND.

0000 for Yard Ramp information
0001 for Dockboard information

If you write maker identify as **IEN - 5963**

Ball Bearing Bushings *for* Limited Space



NEW . . COMPACT . . PRELUBRICATED HIGHER CAPACITY SECTION HEIGHT—¼"

. . for sheaves, fulcrums, idlers, cams, oscillating motions, etc.

Applications of anti-friction bearings heretofore considered impractical or impossible are now made remarkably simple and effective in improving equipment performance and extending the service life of mechanical devices of all kinds.

To investigate the features of these new Double Row Ball Bearing Bushings is to see for yourself the opportunities they offer you in designing for longer carefree service and insuring against excessive wear on critical parts.

Available for press fit on selected shafting for shaft rotation as well as for loose fit on cold rolled shafting with outer race rotation.

Send at once for illustrated literature, sizes and capacities.

SPLIT BALLBEARING CORP.
LEBANON, NEW HAMPSHIRE

If you write maker identify as **IEN - 5964**

"Full pressure, Joe— Quaker hose can take it!"

Quaker
INDUSTRIAL HOSE

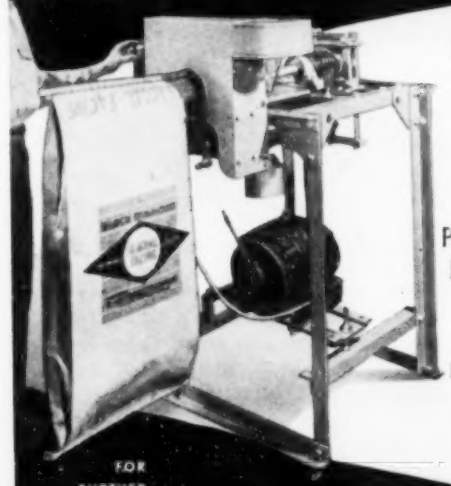
Quaker has it! Whatever your application . . . for steam, water, air . . . for acid or gas—heavy duty hose that must take a "beating" all day long, or a smaller size that is used for light work . . . Quaker hose is engineered with *your specific job* in mind. From tube to cover it's *built* for uninterrupted service and low maintenance cost.
Write for name of nearest Quaker distributor

QUAKER RUBBER CORPORATION
DIVISION OF H. K. PORTER COMPANY, INC.
OF PITTSBURGH
Dept. E, Philadelphia 24, Pa.
Branches in Principal Cities

If you write maker identify as **IEN - 5965**

Investigate the 1953
BLACK DIAMOND AUTOMATIC

valve bag packer



Designed to pack dry granular or powdered free-flowing materials
★
Push-button control
Moderately priced
Easy to install
Lowest maintenance costs
Performance guaranteed
★

FOR FURTHER INFORMATION WRITE TO **BLACK PRODUCTS COMPANY**
13513 S. CALUMET AVE. • CHICAGO 27, ILL.

MANUFACTURERS SINCE 1912

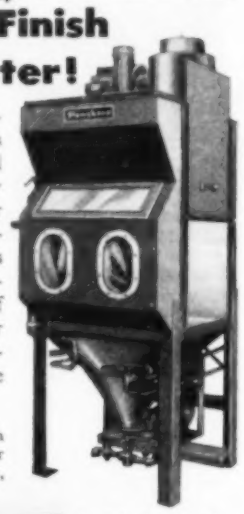
If you write maker identify as IEN - 5966

BEFORE

Mold cleaned and finished by Pangborn Hydro-Finish in minutes!

AFTER

Pangborn Hydro-Finish cleans better—faster!



Molds, dies, tools—Pangborn Hydro-Finish cleans them quickly, leaves them bright and ready to use! Hand cleaning and polishing is practically eliminated! And production is further speeded up because Pangborn Hydro-Finish, operated by one man, removes scale and discoloration in minutes instead of hours. In addition, the use of fine mesh abrasives suspended in water gives you a precision job . . . holds tolerances to .0001" . . . protects delicate equipment.

GET COMPLETE FACTS on Hydro-Finish and how it can save *you* money! Write for Bulletin 1400A to: PANGBORN CORPORATION, 2300 Pangborn Blvd., Hagerstown, Md.

Pangborn

Look to Pangborn for the latest developments in Blast Cleaning and Dust Control equipment

BLAST CLEANS CHEAPER with the right equipment for every job

If you write maker identify as IEN - 5967

Electrolizing

REDUCES WEAR, ABRASION, CORROSION OF PARTS...GIVES 200% TO 800% LONGER LIFE

If your problem is wear, abrasion or corrosion of metal parts, quite likely Electrolizing can provide the solution.

A tested and proven surface treatment used by many major companies since 1945, Electrolizing is increasing the life of such parts as hydraulic pistons, shafts, valves, impellers, rotors, blades, screw jacks, spindles from 200% to 800%.

A CASE IN POINT:

Electrolizing is specified for 38 jet aircraft parts. Laboratory and field tests definitely established the desirability of *Electrolizing* pistons, valves, shafts, bushings, arms and similar parts which were subjected to severe wear, abrasion and corrosion.

Our staff engineers are available for consultation without obligation. Write for new booklet describing *Electrolizing* and its advantages.

THE **Electrolizing** CORPORATION

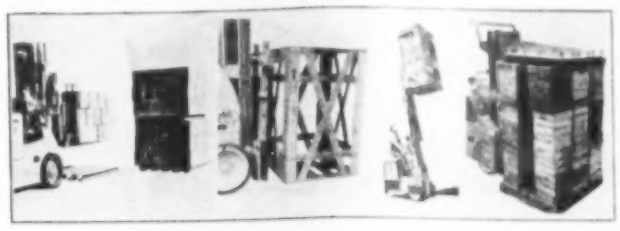
1505 EAST END AVENUE • CHICAGO HEIGHTS, ILLINOIS

PLANTS:
Providence 1, R. I. 148 W. River St. — Cleveland 10, Ohio 1650 Collamer Rd. — Chicago Heights, Illinois 1505 East End Ave.

If you write maker identify as IEN - 5969

TRUCK . . Load handling attachments are interchangeable for special uses

Source: AUTOMATIC TRANSPORTATION CO.
149 W. 87th St., Chicago 20, Ill.



Typical examples of available units

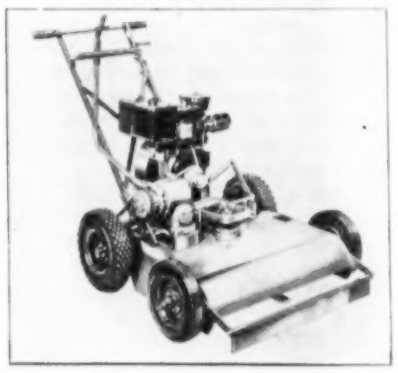
Illustrated are four new load handling attachments for interchangeable application on the company's fork lift trucks to meet special requirements. A hydraulic push-pull assembly, to the left, applies with a special corrugated pallet to pick up boxed loads and carry them to a point of storage or shipment without taking the pallet. Multiple forks lift the load and a pushing device removes it from the forks or is reversed to pull it into position. The pulling unit grasps the removable sheet of paper that forms the top of the pallet.

A second attachment, to handle wire bound crates in and out of storage, employs a rack with spiked fingers on the truck carriage in place of the usual forks. The fingers enter the openings in the crate to lift and carry it as required. A third attachment picks up a maximum of 24 boxes of fruit or similar merchandise, holds them securely for transportation and for high elevation storage. A fourth attachment employs a clamping head above the load with a set of spring backed rubber plates. These plates come down to compress when the load weight is taken on the truck forks for secure movement from one location to another.

If you write maker identify as IEN - 5970

MOWING . . Engine driven machine, vertical shaft single blade cutter

Source: PEARCE CORP.
142-46 E. Highland, Milwaukee 2, Wis.



One of three sizes

Illustrated is new design of the Model-M mowing machine, previously described IEN-6929-52. The new assembly is 6 in. narrower than the original design. Cut width remains at 31 inches. Travel and cutter drive is by an air-cooled gasoline engine rating 8¼ hp. at 3,200 rpm. The machine can mow about 6 acres per day under normal conditions.

The operator engages and disengages a Twin Disc friction clutch for the travel movement. He also is able to start and stop the cutter rotation independently. The machine wheels are mounted on ball and roller bearings with Alemite lubricant fittings. Action, created by a suction vane on each end of the cutter bar, lifts the grass or weeds to stand straight for cutting. The cutter breaks the material up into small pieces that normally do not require raking.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5971

For more efficient . . . LIQUID HANDLING

USE... BOWSER XACTO...

the world's most widely used meter!

If you measure liquids, you need Bowser XACTO meters. Many hundreds of users — handling hundreds of different liquids — have found it to be the easiest, most efficient, accurate and dependable method of control they have ever used. XACTO can do the same for you!

Push-button operation delivers predetermined quantities . . . eliminates guesswork . . . will even print a delivery ticket when desired.

Write TODAY for full facts on XACTO!

BOWSER, INC.
1338 Creighton Ave., Fort Wayne 2, Ind.

REGIONAL OFFICES: ATLANTA • CLEVELAND • DALLAS • FORT WAYNE • KANSAS CITY • NEW YORK • SAN FRANCISCO • WASHINGTON, D. C. • HAMILTON, ONT.

If you write maker identify as IEN - 5972

Sensational RESN-X HEAVY-DUTY FLOORING IS WORKING WONDERS

where many acids, oils, alkalis, chemical corrosives, solvents, syrups, etc., have caused MAJOR FLOOR BREAKDOWNS.

WRITE FOR YOUR FREE COPY!

RESN-X TECHNICAL DATA SHEET

DON'T PUT IT OFF... WRITE AT ONCE!

ROCK-TRED Corporation

Manufacturers of a Complete Line of Building Maintenance Materials
7440-7450 North St. Louis Avenue • Skokie, Illinois
In Canada: Rock-Tred Corporation (Canada) Limited, Toronto 5

If you write maker identify as IEN - 5973

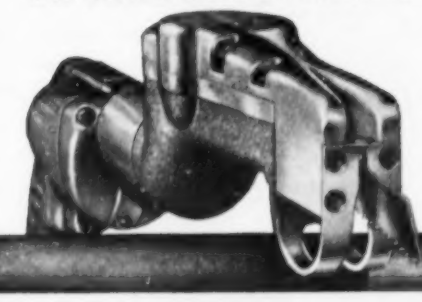
RCS SUPER SAW

SAVES YOU MORE TIME, RIGHT ON THE JOB, THAN ANY OTHER TOOL IN YOUR KIT!

A Journeyman's tool, built to stand up under constant, on-the-job Contractor or industrial use. Needs no starting hole—has built-in blower—fits any heavy duty ¼" or ⅛" drill—blades to cut all materials—listed on Federal Supply Schedules, Class 40 Materials.

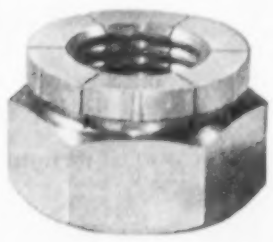
Write for literature and prices (Bulletin H-5)

R.C.S. TOOL SALES CORPORATION • JOLIET, ILLINOIS



If you write maker identify as IEN - 5974

one standard FLEXLOC SELF-LOCKING NUT



covers temperature range to 550°F

Because they are all metal and require no auxiliary locking device, FLEXLOCS lock and stay tight even at higher temperatures. See your local industrial distributor for literature and samples or write SPS, Jenkintown 14, Pa.

Our Fiftieth Year : A START FOR THE FUTURE

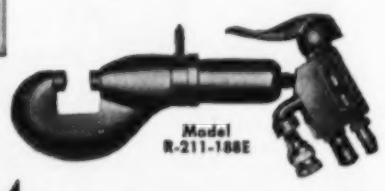
FLEXLOC LOCKNUT DIVISION

SPS JENKINTOWN PENNSYLVANIA

If you write maker identify as IEN - 5975

NEW MANCO HYDRAULIC RIVETER

Here's fast, silent, and powerful hydraulic riveting. Riveting cycle only one second. Easy-to-operate hand lever valve mounted on riveting head. No solenoids. Capacity for ¼" and 5/16" rivets. Adjustable pressure setting for use on straight and shoulder rivets. Riveting yoke reach is 1¾" with a gap of 1⅜" including rivet sets. Other yokes also available. Full swivel about cylinder axis permits easy placement. Compact electric hydraulic pump. Weight of riveting head . . . 18 lbs.



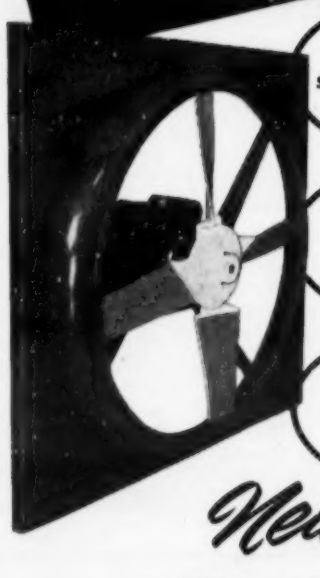
Other Manco Riveters are available with capacities from 10 to 150 tons. Send us your riveting problem.

Dept. N-5

MANCO mfg. co.
Bradley, Illinois

If you write maker identify as IEN - 5976

Powerful, low-cost ventilation



Easily installed square mounting panel

Totally enclosed ball-bearing motor

5400 to 36000 CFM (certified)

New

Hunter Industrial Fan

FEATURES:

- Streamlined orifice for efficient air entrance
- "Gull Wing" design—aluminum alloy blades
- Direct-drive fan for medium static pressure
- Motor permanently lubricated for life
- Automatic shutters to fit all fan sizes

Clip and mail now for complete data — Hunter

Hunter Fan & Ventilating Company
375 S. Front St., Memphis 2, Tenn.
Send complete information on Hunter Industrial Fan to:
Name _____
Address _____

If you write maker identify as IEN - 5978

EXTINGUISHING . . CO_2 hand unit in five capacities, 2½ to 20 pounds

Source: AMERICAN LAFRANCE-FOAMITE CORP.
137 East LaFrance St., Elmira, N. Y.

Weight checks charge

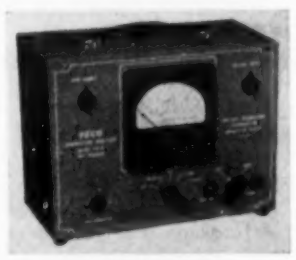
New valve, with which the Alfco carbon dioxide portable hand extinguisher is now equipped, can be taken apart for servicing without need for special tools. It is operated by a lever mounted directly over the stem. A safety disc is side mounted to protect it against damage. The double-prong locking pin cannot fall out to result in accidental discharge.

The gas is a non-conductor and can be used on electrical fires. It is inert, non-corrosive, non-poisonous, odorless. It evaporates without leaving any trace but effectively smothers a fire by excluding oxygen. It will not freeze or deteriorate with age and does not require annual renewal. Units with hose connections carry the company's Anti-Statik discharge device. The extinguisher carries the approval label of Underwriters' and Factory Mutual Laboratories.

If you write maker identify as IEN - 5979

TESTING . . Flue gas instrument to check furnace combustion and draft

Source: VICTORY ENGINEERING CORP.
20 Springfield Road, Union, N. J.



No chemicals

Combustion Analyzer Model 140-C is a new instrument based on a bridge circuit. It employs a sealed sample of reference gas and the company's negative temperature coefficient thermistors. Carbon dioxide content in the flue gas is read as a function of conductance, through the reference and sample gases, as measured by the thermistors and indicated on a scale on the instrument face.

The instrument mounts three scales reading carbon dioxide, temperature and draft. It includes a probe and aspirator bulb to draw in a flue gas sample for carbon dioxide and temperature readings and a second probe to read draft. Assembly is in a housing that measures 10 by 4½ by 7½ inches. Current is supplied by a small dry cell. Current drain by the instrument is negligible.

Identify as IEN - 5980

Donald I. Bohn, Chief Electrical Engineer for Aluminum Company of America, has perfected induction heating equipment capable of raising temperature to forging heat, 750-deg. F., in a 7,700-lb. aluminum ingot in 50 minutes. This compares with 12 hours required by previous conventional heating. The equipment operates on 60-cycle ac. It can be employed for annealing and heat treating also.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

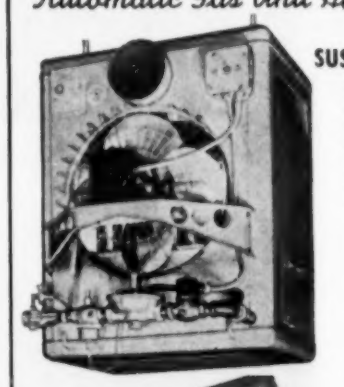
If you write maker identify as IEN - 5981

REZNOR

Since 1888

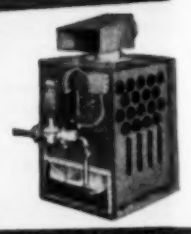
THE NAME YOU CAN COUNT ON!

Automatic Gas Unit Heaters for COMFORT PROCESS



SUSPENDED & FLOOR UNITS

Safe, compact, efficient and good looking heaters for individual or group operations. Equipped with big quiet fan or centrifugal blower, designed for every space requirement, every heating need.



DUCT FURNACES

Here's the answer for your most complicated problem in engineered heating and production line specialties! Basic heat producer, automatically controlled, automatically fueled. Perfect for air conditioning and other systems where close temperature tolerances are maintained.

SEE SWEET'S CATALOG FILES or WRITE FOR HEATING DATA

REZNOR MANUFACTURING COMPANY
10 UNION STREET, MERCER, PA.

If you write maker identify as IEN - 5982

. . . for micrometer-precision speed control . . .

HANNA *Flo-Set* SPEED CONTROL VALVES

For *precision* speed control, measured by a consistent, constant gauge, Hanna offers a line of Flo-Set Valves ¼", ⅜" and ½". Micrometer graduations in hundredths of a revolution permit precision regulation of flow. For light piping and tubing, there's a ¼" Flo-Set Jr. Valve, without micrometer markings.

Hanna Flo-Set Valves are suitable for air, oil or water control, with maximum pressure to 250° p.s.i. and temperature to 250° F. They may be mounted in any position.

WRITE FOR NEW BULLETIN 257
Send for free Bulletin 257 describing the complete line of Hanna Flo-Set Valves.

Hanna Engineering Works
HYDRAULIC AND PNEUMATIC EQUIPMENT · CYLINDERS · VALVES · RIVETERS
1748 Elston Avenue • Chicago 22, Illinois

If you write maker identify as IEN - 5983

What's YOUR Heating or Air Conditioning Control Problem?

. . . with their 60 years of experience installing pneumatic systems of temperature and humidity control in all types of important buildings are well qualified to help you obtain the greatest return from an investment in — **ACCURATE UNIFORM CONTROL** in all types of heated or air conditioned spaces—offices, factories, process rooms, processes, research and test laboratories, packaging or storage rooms. You can gain . . .

Some Prominent Users of Powers Control:
Ford Motor Co.
Chrysler Corp.
Esso Research Center
Sears Roebuck & Co.
Bendix Aviation Corp.
Goodrich Tire & Rubber Co.
Eastman Kodak Co.
Pepperell Mfg. Co.
Armour & Co. • Swift & Co.
Bachmann Uxbridge Corp.
Monsanto Chemical Co.
U. S Capitol Bldg.
M.I.T. and Harvard Univ.
N Y. Stock Exchange

Increased Efficiency and Output of Workers by keeping each room or department at its proper temperature.

Cuts Heating Costs up to 25%—23% fuel savings reported by E. R. Squibb & Sons. With today's higher fuel costs bigger savings than ever before are possible with Powers control. It eliminates fuel wasted by OVER-heating with manual operation.

Precision Control for Processes—Wherever product uniformity and quality are dependent upon precise temperature and humidity regulation use Powers controlling, indicating or recording instruments.

Phone or Write Powers Nearest Office for aid in selecting the type of automatic control that will give best results for your requirements. There's no obligation. Powers control systems can be installed in existing as well as new buildings.

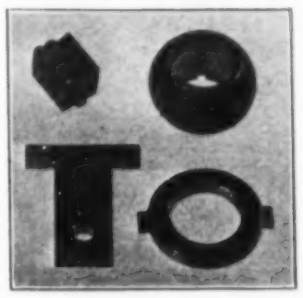
(a99)

THE POWERS REGULATOR CO.
Skokie, Ill. • Offices in Over 50 Cities, see your phone book.
OVER 60 YEARS OF TEMPERATURE AND HUMIDITY CONTROL

If you write maker identify as IEN - 5985

SELF-LUBRICATING BEARINGS AND MECHANICAL PARTS

SINTRLOY — DUCTILOY — SEALOY



SINTRLOY — Powdered Bronze Bearings are used by the millions in sweepers, refrigerators, washing machines, portable electric and pneumatic tools, medium and light industrial equipment.

DUCTILOY — Powdered Bronze Bearings and Mechanical Parts to be used in heavy duty applications where greater strength and shock resistance are required.

SEALALOY—Powdered Bronze Material used for mating rings in rotating mechanical seals to give excellent wearing qualities and shock resistance. Manufactured to your exact requirements.

MAY WE QUOTE ON YOUR SPECIFICATIONS AND PRINTS? NO OBLIGATION.

NATIONAL MOLDED PRODUCTS, INC.
1945 Mill Street St. Marys, Pa.

If you write maker identify as IEN - 5986

MAKE GAGES LAST LONGER

Offered as a service to our thousands of satisfied customers and friends.*

✗ DON'T

- ✗ Don't force gage into or over part being checked.
- ✗ Don't lay gages on metal benches or dirty surfaces.
- ✗ Don't clean gages in water, kerosene or carbon tetrachloride—all cause rusting.
- ✗ Don't spin parts on or off gages. This accelerates wear.
- ✗ Don't lay gages in sunshine — expansion causes errors.
- ✗ Don't use gages that fit loosely. Know the "feel" of proper gaging.
- ✗ Don't use gages that show visible burrs, nicks or irregularities.

DO

- ✔ Learn how to hold and use gages properly. Fit must be snug and smooth. Make wooden gage racks covered with oiled felt for clean gages.
- ✔ Roll or twist gages into work slowly to get proper feel.
- ✔ Check gage against master gage before use, at least once each shift and before returning to tool crib.
- ✔ *Include gaging expense as part of manufacturing budget. Quality product companies now do this.*

*8¼ x 11" reprints of this ad in three colors on heavy stock are available at no charge for posting in your factory.

. . . AND insist on all of these quality features when you buy new gages:

Reversible Plugs . . . enable you to cut off worn tips at each end—use new section exposed for six to eight times more wear life.

Entire Plug Surface Usable—straight untapered pieces provide uniform gaging surface over entire length—finish to 1.5 microinches RMS or less for maximum amount of wear life.

Pin-Vise Aluminum Handle—positive locking; plugs can't slip. Easily loosened for replacing or reversing plug. Plug length adjustable for different hole depths.

Easy Recognition—GO in green finish; NO GO red.

Special Hardening—plugs hardened throughout . . . enables you to grind plugs down to next lowest size . . . gives greater economy.

We'd like to discuss your gage needs and have your gage orders. Our engineering representatives are located in all principal cities. Write or telephone us today.

SIZE CONTROL COMPANY
2500 W. Washington Blvd., Chicago 12, Ill. MOnroe 6-6710
Division of American Gage & Machine Company

SIMPSON ELECTRIC COMPANY
5200 W. Kinzie St., Chicago 44, Ill. COlumbus 1-1221

WALSH PRESS & DIE CO.
4709 W. Kinzie St., Chicago 44, Ill. EStebrook 8-6700

If you write maker identify as IEN - 5988

CLEANING . . Abrasive blast machine tumbles the work load and discharges

Source: PANGBORN CORP.
230 Pangborn Blvd., Hagerstown, Md.

Roll door closes front

Two new sizes have been added to the Blastmaster Rotoblast Barrel, previously described IEN-7043-52. One rates 3 and the other 18 cubic feet. At the same time, improvements have been made in the design based on field experience with the 6 and 12 cu. ft. previous machines.

The metal door with its rubber backing rides on side rollers that travel in a mechanical labyrinth so the door moves up and down like a curtain in connection with a second heavy rubber curtain between the door and the blasting area. This curtain protects the door from flying abrasives, prevents damage on work contact.

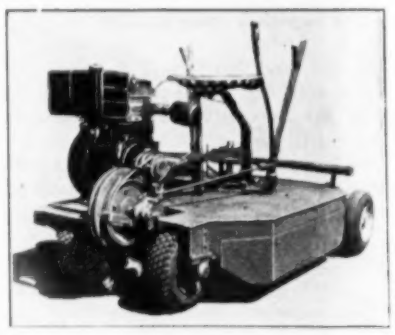
The work conveyor consists of a continuous hardened steel roller chain with metal slats designed so no opening is presented to pinch the work or to clog. Individual perforated slats can be replaced as they wear and the assembly can be removed from the machine. The drum ends are free turning on Timken roller bearings, factory lubricated and sealed. Sand and debris are continuously removed by the cleaning and reclaiming equipment. A quick acting work loader delivers a complete load positively into the machine.

Abrasive is handled in a closed circuit. It is picked up, cleaned, reclaimed and returned to a storage container ahead of the centrifugal wheel. Its flow is controlled by an orifice plate. Equipment in the handling circuit includes a rotary scalper to remove large fragments, a screen through which the abrasive drops, an elevator type conveyor that lifts the abrasive to a separator where sand and spent abrasive are drawn out. The good abrasive drops back for re-use.

If you write maker identify as IEN - 5989

MOWING . . Engine driven machine for large but obstructed lawn areas

Source: SOUTHERN SAW WORKS INC.
453 East Point Road, Atlanta, Ga.



15 acres per day

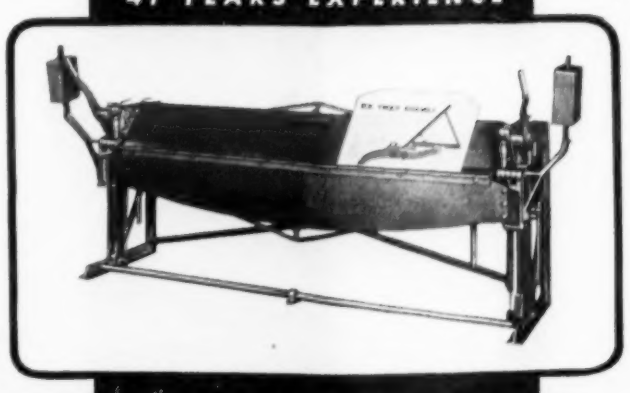
The operator rides this new Big Snapper mowing machine. He steers by a tiller type lever and is flanked with travel and cutter drive control levers connecting the 8-hp. gasoline engine and its variable speed transmission. The engine is belt connected to both travel and the vertical drive shaft for the circular air-lift cutter blades. Setting is provided for blade height from 2 to 6 in. above the ground. The machine operates in both forward and reverse at 1 to 5 mph. It cuts a 36-in. swath.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 5990

WHITNEY METAL TOOL COMPANY

41 YEARS EXPERIENCE



WHITNEY-JENSEN
ROLLER BEARING
BENDING BRAKES

A modern departure from conventional hand brake design. Work is not limited to straight bending and box and pan work alone. Special attachments permit many intricate forming operations. Made in 16, 14, 12 gauge capacities; 4, 5, 6, 8, and 10-foot sizes.

WHITNEY METAL TOOL COMPANY
200 FORBES STREET, ROCKFORD, ILLINOIS

If you write maker identify as IEN - 5991

NEW SURFACE FOR OLD FLOORS

"Pre-packaged" flooring makes old surfaces like new

Renew "beat-up" floors and traffic lanes with job-tested Plastic Rock. Bonds to concrete, wood or steel; perfect feather edge; spark-proof, skid-safe wet or dry; dustless, noiseless, easily cleaned; will not splinter, crumble, curl or loosen. Hundreds of tons rolling on steel wheels only pack denser; 10-year-old floors show no wear. Plastic Rock comes complete, packed in handy barrels; materials uniform in quality; no "formulae" or guesswork; simply mix and trowel (average thickness 1/2"). Maintenance crew or contractor can easily apply and have ready for use in 48 hours. Used everywhere by industry, railroads and institutions.

Plastic Rock puts shock-absorbers on your floors.

Get free bulletin "Q-5"

UNITED LABORATORIES, INC.
16803 EUCLID AVENUE • CLEVELAND 12, OHIO

If you write maker identify as IEN - 5992

THEY GRIND--NOT JUST RUB!

The RPM's stay up while grinding . . . not only when the grinder runs idle.

It is an established fact that surface speeds must stay up to approximately a mile a minute if you want to grind . . . not just rub. Every mechanic knows this, but an inexperienced buyer may order tools that maintain proper grinding speeds only when running idle. The speed of Kipp air grinders drops but slightly when put to work. That means better work . . . longer wheel life.

MADISON-KIPP CORP.
224 Waubesa St., Madison, Wis., U.S.A.

Write for KIPP Air Tool Catalog AT 3006

If you write maker identify as IEN - 5993

Launder them with Metso Detergent and they will last longer. Tensile strength tests prove Metso is kind to fibres. Each load from the washwheel is clean and bright because Metso's balanced silica components help soap to remove more dirt. A sample of Metso and handbook of useful data on laundry practice mailed free.

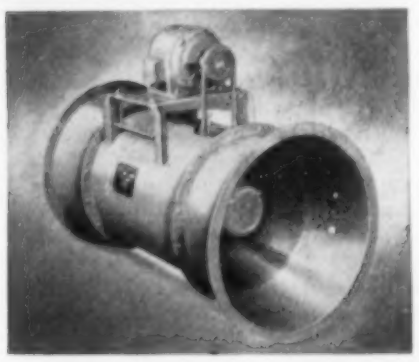
Philadelphia Quartz Company
1131 Public Ledger Building, Phila. 6, Pa.

Metso® Detergents

Efficient Metso Silicated Detergents used in dozens of other industrial cleaning operations.

If you write maker identify as IEN - 5994

THE SHORTEST DISTANCE BETWEEN ECONOMY and EFFICIENCY...



"Buffalo" straight-line AXIAL FLOW FANS

Mount this "Buffalo" Axial Flow Fan right in your straight ductwork. You'll save the space of a floor unit mounted outside the duct system. For ventilation, exhaust or air-conditioning supply. "Buffalo" Axial Flow Fans offer light weight, compact design, straight line air delivery and non-overloading features. Find out how you can get better air handling at greater savings. Write for Bulletin 3533-C today!

BUFFALO FORGE COMPANY

496 BROADWAY • BUFFALO, NEW YORK

Publishers of "FAN ENGINEERING" HANDBOOK

Canadian Blower & Forge Co. Ltd., Kitchener, Ontario

Sales Representatives in all principal cities

"Buffalo" AXIAL FLOW FANS *"Air travels the Bee-Line Route"*

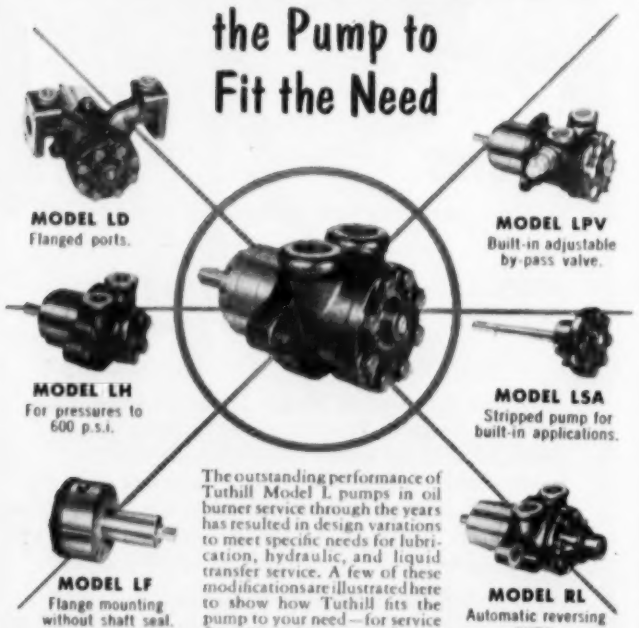
If you write maker identify as IEN - 5995

Take surface temperatures quickly, accurately... with the

The handy Alnor Pyrocon is unequaled for quick, accurate reading of all surface temperatures . . . whether surfaces are metallic or non-metallic, flat or curved. Accurate temperatures are easily understood on the Pyrocon's direct reading scale face . . . without interpolation or need of conversion tables. A wide selection of thermocouples and extension arms permits adaptation to many types of service. For complete details and prices, send for Bulletin No. 4257. Illinois Testing Laboratories Inc., Room 517, 420 N. LaSalle Street, Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

Here's How TUTHILL Builds the Pump to Fit the Need



The outstanding performance of Tuthill Model L pumps in oil burner service through the years has resulted in design variations to meet specific needs for lubrication, hydraulic, and liquid transfer service. A few of these modifications are illustrated here to show how Tuthill fits the pump to your need—for service from ½ to 6 g.p.m. and pressures to 600 p.s.i.

Write for Catalog No. 101 for complete details

TUTHILL PUMP COMPANY

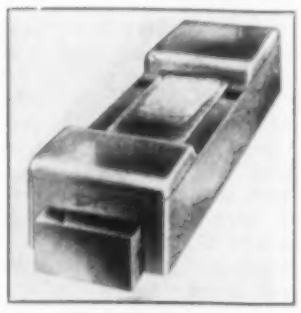
939 East 95th Street, Chicago 19, Illinois

Canadian Affiliate: Ingersoll Machine & Tool Company, Ltd. Ingersoll, Ontario, Canada

If you write maker identify as IEN - 5997

FILTERING . . Conveyor type unit separates solids from coolant liquid

Source: U. S. HOFFMAN MACHINERY CORP. 221 Lamson St., Syracuse 6, N. Y.



For soluble oils

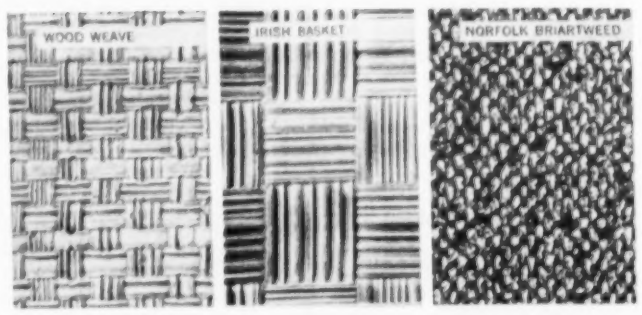
Coolant fluid loaded with sludge and chips from grinding machines, machine tools, flows by gravity to a distributor head located near one end of a motor driven woven fabric belt in this new Vacu-Matic filter. Liquid and sludge distribute uniformly across the belt which carries it forward over a chamber where a built-in pump pulls the coolant liquid through the belt and leaves the sludge and chips on its surface. The coolant drains into a sump from where it is recirculated to the machines by a built-in clean supply pump. Sludge and chips, in the form of a cake, move to the discharge end of the conveyor to drop into a removable tote box. A vibrator assists in the discharge action.

Two assemblies rate maximum flow at 20 and 40 gpm. They hold 35 and 75 gal. of clean coolant. Overall dimensions are 77 by 32½ by 20½ inches and 85 by 50½ by 23 inches.

If you write maker identify as IEN - 5998

FABRIC . . Vinyl plastic, electronically fused, three patterns

Source: L. E. CARPENTER & CO. 42nd Floor Empire State Bldg., New York 1, N. Y.



Color samples and swatches upon request

Wood Weave, Irish Basket and Norfolk Briartweed are three new patterns of Viertex fabric. Each presents a woven appearance and is suited for decorative and upholstering applications. The material will not chip, scratch, peel or crack. It can be folded, pleated, shaped. It requires no backing or lining. It is resistant to stain, soil and flame and can be wiped clean with a damp cloth.

Identify as IEN - 5999

Steam cleaning for one hour of every eight, in operation of a lemon juice processing plant, keeps the equipment and plant in sterile condition. The steam also removes the oil from some 4,500 machine and conveyor bearings. This was a serious problem until Alemite Accumeter centralized lubricating equipment was installed. Now fresh oil is put back in the bearings in about fifteen minutes.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 6000

ALL-PURPOSE, RUBBER-TYPE CABLE

for long life... in conduit— buried—exposed

FREE BOOKLET tells how to select, splice, terminate General Electric's Versatol* Geoprene cable.

Now, in one handy booklet, you get full information on G-E Versatol Geoprene cable . . . information on such advantages as easy handling, easy splicing and terminating.

These dependable, general-purpose cables can be installed exposed, in conduit, or buried directly in the ground. Rated for 75 C operation in dry locations and for 60 C operation in wet locations, Versatol Geoprene cables offer a solution to many of your important cable problems.

Write for a free copy of the booklet, *Versatol Geoprene Power and Control Cable.* Section W44-542, Construction Materials Division, General Electric Company, Bridgeport 2, Connecticut.

*Registered Trade-mark General Electric Company

You can put your confidence in— GENERAL ELECTRIC

If you write maker identify as IEN - 6001

Clean, Dry Air FOR CLEAN PAINT SPRAY

● The Stuard AUTOMATIC AIR SEPARATOR removes all moisture, oil and foreign matter from air lines. Does not waste air by continuous venting. Patented one-piece separator and eliminator chamber. Write for bulletin.

R & IE STUARD AUTOMATIC **AIR SEPARATOR**

R & IE EQUIPMENT DIVISION

I-T-E CIRCUIT BREAKER CO., GREENSBURG, PENNA.

If you write maker identify as IEN - 6002

SPEEDS UP WORK! CUTS DOWN COSTS!

The amazing desk-top OZAMATIC makes direct copies of almost anything typed, printed, written or drawn!

No Retyping! No Proof-reading! No Costly Errors!

WITH the amazing new compact OZAMATIC, you simply feed in your original copy of any letter, drawing, or report on ordinary translucent material. In a matter of seconds you have your first copy—*clean, dry* and *ready to use!* Letter-size copies at a rate up to 1,000 an hour . . . at a cost of less than 1½c each.

You'll find many uses for the Ozalid direct copying process entirely self-contained in the desk-top OZAMATIC machine. It makes copies up to 16 inches wide, at speeds up to 30 feet per minute. Larger Ozalid machines accept wider originals, and have even greater capacity. Any girl in your office can learn to operate any Ozalid machine in five minutes.

Write today for free, illustrated literature—or call the Ozalid distributor listed in the classified section of your local phone book.

Cut Copying Costs... Use **OZALID**

Johnson City, N. Y.

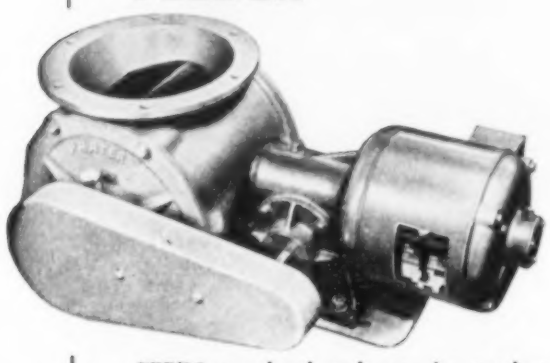
A Division of General Aniline & Film Corporation.

"From Research to Reality."

Ozalid in Canada—Hughes Owens, Ltd., Montreal.

If you write maker identify as **IEN - 6004**

PRATER ROTARY AIRLOCK FEEDER



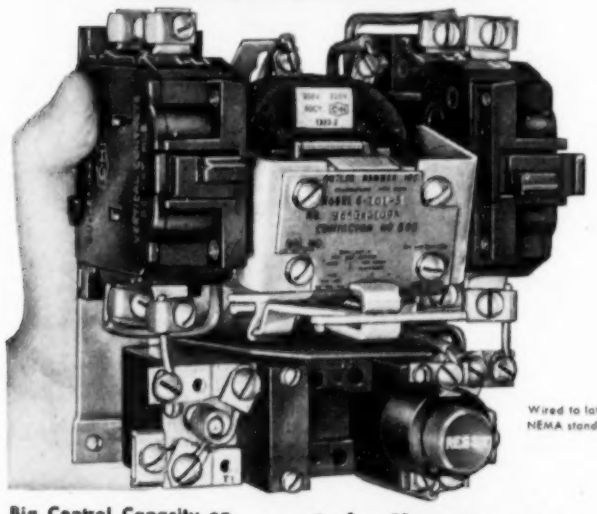
FEEDS powdered and granular products into conveying line—quickly and accurately!
STOPS air leakage at the discharge of dust collectors or other pneumatic equipment!
PRE-DETERMINES rate of feeding material into mixers, blenders, hoppers, etc.
RECOMMENDED in the processing of: Ball Clay, China Clay, Diatomaceous Earth, Kaolin, Grains and Feeds, Graphite, Limestone, Whey Powder, Calcium Carbonate, Sulphur, Fullers Earth, Ochre, Volcanic Ash, Bronze Powder, Bauxite, Carbon Black, Salt, Barium Carbonate, Marl, Sugar, Cocoa, Gypsum, Silica, Manganese Sulphate, Phenolic Molding Compound.

Send for new illustrated bulletin

PRATER PRATER PULVERIZER COMPANY
1536 So. 55th Court • Chicago 50, Ill.

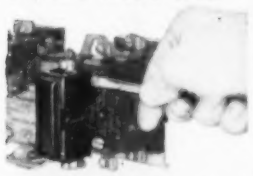
If you write maker identify as **IEN - 6005**

NEWS FOR MOTOR CONTROL DESIGNERS



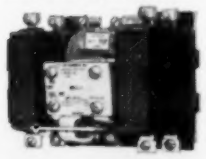
Wired to latest NEMA standards.

Big Control Capacity on Small Panel Area. NEMA Size 1 Compact Starter; 7½ HP. 440 V. Measures only 5.75" x 5.75" x 3.8"



Easiest-to-add Extra Interlocks. Only a screwdriver is needed; contactor or other parts not disturbed.

Three-Coil Overload Protection. Full 3-Phase protection without exaggerated space requirements and expense. 3-Coil relay shown here with 3-position switch and reset button.



Most Adaptable Control Relays. Two to six poles; dust-safe vertical contacts. Contacts can be changed from N.O. to N.C. or vice versa by simply inverting position. Circuit arrangement is always visible.

Cutler-Hammer ☆ ☆ ☆ Components Offer Many Desirable New Features

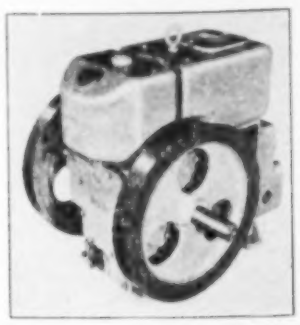
Electrical engineers everywhere today are quick to praise the spectacular new Cutler-Hammer ☆ ☆ ☆ Motor Control. The three stars stand for three entirely new standards in motor control performance and satisfaction . . . an entirely new standard in ease of installation . . . an entirely new standard in trouble-free performance . . . an entirely new standard in both electrical and mechanical life. These new standards are of great importance to machine design and control circuit engineers. Particularly, because they have been achieved with components of extremely small size designed to permit the closest possible grouping on panels. Panel spacing can be determined almost entirely by electrical considerations . . . extra dead space is not needed for the mechanics of wiring, adjusting, or even disassembling installed components. No other components offer such simple and complete flexibility; easy-to-add electrical interlocks, easy-to-change contact arrangements on control relays, three coil overload relays for full three-phase protection, etc. Write *today* for technical data sheets. CUTLER-HAMMER, Inc., 1378 W. St. Paul Avenue, Milwaukee 1, Wisconsin.

CUTLER-HAMMER
MOTOR CONTROL
C-H

If you write maker identify as **IEN - 6007**

ENGINE . . Four cycle design rates 10 hp. on gasoline at 1,200 rpm.

Source: WITTE ENGINE WORKS
1638 Oakland Ave., Kansas City 26, Mo.



This is Model 98HS

Model 98 is a new water cooled carburetor type engine for intermittent or continuous operation, burning gasoline, kerosene or gas. It is single cylinder, horizontal design and can be assembled with a water cooling tank, hopper or condenser. Applications are on concrete mixers, compressors, welding generator sets, power generator sets, water pumps.

The design employs a removable wet cylinder liner, tapered roller main bearings, aluminum piston, dynamically balanced crankshaft, splash lubrication, centrifugal governor, high tension magneto with impulse coupling. Valves are located in the head with access through a cover plate. The starting crank is built into the flywheel.

If you write maker identify as **IEN - 6008**

INSULATING . . Silicone resin to manufacture glass cloth laminates

Source: DOW CORNING CORP.
P. O. Box A-592, Midland, Mich.

Technical data
No. 10-221

Resin No. 2105 is a new silicone material that shows remarkable dielectric characteristics as the bonding material in manufacture of glass cloth laminates such as transformer tubes. The laminates can be made at pressure from 300 to 1,000 lb. per square inch. Temperature range is 175 to 250 deg. F. Curing is from 3-hr. press cure to 30-hr. after cure.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

"I WISH I HAD"

(Continued from page 128)

SURPLUS . . "I wish we had a buyer for a quantity of blue cellophane No. 300 MSC. The material ranges in cut sizes from 4¼ by 8⅜ in to 8⅜ by 10⅞ inches. It is packaged in units of 1,000 sheets. South Hackensack, N. J." **IEN W-42**

SURPLUS . . "I wish we had a buyer for all or a part of our stock of 627 sets of Landis tool chasers ranging from 1½ to 3⅝ inches. They are in Landisville, Penna." **IEN W-43**

SURPLUS . . "I wish we had a buyer for eleven Burke motor driven generators rating 10 kva. for input operation on 115 volt dc. output on 115 volt, 60 cycle, single phase ac. The unused equipment is near New York City." **IEN W-44**

SURPLUS . . "I wish we had a buyer for a Hayssen wrapping machine, Model 8-18, Serial No. 10520. It wraps packages measuring 8 to 18 in. in length, 4½ to 8½ in. in width, and about 1 to 5½ in. in height. We have it in Milwaukee, Wis., and hold it at $2,500." **IEN W-45**

If you write maker identify as **IEN - 6009**

How Avon saves $12,000 a year with International Carton Stapler

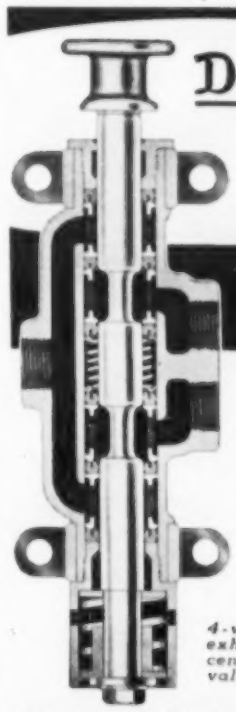
In 1950, the Chicago branch of Avon Products Inc., nationally known manufacturers of cosmetics and toiletries, installed an International Stapler for closing filled cartons of their products.

Formerly, it took 32 man-hours to close between 1,500 and 2,000 cartons of varying sizes. With the International Stapler, this operation requires approximately one-fourth the time.

International Staplers will save you up to 50% on shipping costs . . . write for details. ***Have you seen the new movie, "Package for Profit"? Ask about bookings.***

INTERNATIONAL STAPLING MACHINES
INTERNATIONAL STAPLE & MACHINE COMPANY
800 East Herrin Street, Herrin, Illinois

If you write maker identify as **IEN - 6010**



Diversatility

IN CONTROL OF DOUBLE-ACTING AIR CYLINDERS

Only VALVAIR offers 2 Kinds of Neutral Valves

Manual or spring-return to neutral position are the two models by Valvair. Three types: (1) all ports blocked at neutral; (2) inlet and cylinder ports open to pressure, exhaust closed; (3) inlet closed, cylinder ports open to exhaust. 3-way and 4-way. Pipe sizes, 1/4" through 1". Six control assemblies: knob, lever, clevis, treadle, cylinder, solenoid.

4-way, piped exhaust, spring-centered neutral valve.

* * *

Get Bulletin "KQ-5"

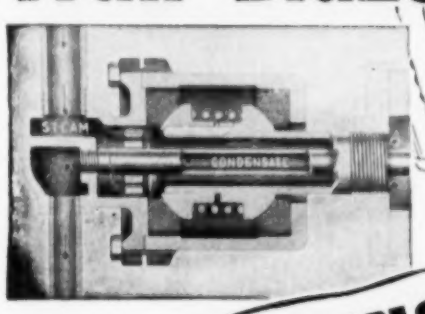
VALVAIR CORPORATION • *Affiliate: Sinclair-Collins Valve Co.*
949 Beardsley Avenue • Akron 11, Ohio

REPRESENTATIVES IN PRINCIPAL CITIES

Rely Upon **Valvair** 2-WAY 3-WAY 4-WAY

If you write maker identify as **IEN - 6011**

Trail-Blazer . . .



JOHNSON Rotary Pressure JOINTS

As a brand new approach to an old problem, the Johnson Joint introduced a form of stuffing box without stuffing, and without any need for oiling or adjusting. Years of service in the textile and paper industries have proved it unmatched for the twin tasks of boosting efficiency and slashing maintenance. Now its unusual possibilities are being utilized on rubber mills, grain dryers, rolling mills and many similar machines. If you're looking for a better way to get steam or liquids in or out of rotating machine parts, get all the facts.

Sizes and special types for all needs; write for literature.

The Johnson Corporation
846 Wood St., Three Rivers, Mich.

If you write maker identify as **IEN - 6012**

STONTOP FOR CONCRETE FLOORS

Is Like Penicillin for Humans

In fact, a leading pharmaceutical company has bought large quantities of STONTOP—because they found it unequaled for protecting their concrete floors against abrasive wear, disintegration and "dusting". It's worth investigating . . . Adds years to the floor's life.

STONTOP FILLS THE PORES—HARDENS THE SURFACE

Send for a copy of our free booklet showing STONTOP in action, read about a test you can make yourself, just fill in the coupon below.

STONHARD COMPANY
Building Maintenance Materials Since 1922
102 Stonhard Bldg., 1306 Spring Garden St., Philadelphia 23, Pa.

Yes, I want details on STONHARD STONTOP 102/5/53

Name .....
Company ..... Title .....
Address .....
City ..... Zone ..... State .....

If you write maker identify as IEN - 6013

Stop That Tramp Iron!

with STEARNS ELECTRO-MAGNETIC PULLEYS

A Stearns Electro-Magnetic Pulley protects your crushing equipment by removing all tramp iron automatically—economically. Reduce shut-down time and keep your repair charges LOW — install a Stearns Electro-Magnetic Pulley. It is the only economical and effective insurance against the tramp iron hazard.

For a thorough investigation of your separation problem, Stearns offers complete laboratory research facilities. Write today for details on testing of sample material.

1009

MAGNETIC EQUIPMENT FOR ALL INDUSTRY

STEARNS MAGNETS

STEARNS MAGNETIC, INC.
626 South 28th Street, Milwaukee 46, Wis.

If you write maker identify as IEN - 6014

IT'S LIVE
YOU MUST SEE IT!
AT THE
MATERIALS HANDLING EXPOSITION
PHILADELPHIA, MAY 18-22
BOOTH 1455

A NEW CONCEPT IN—
MOVEMENT

Here is a totally new concept in PRODUCT MOVEMENT . . . with lower original cost, reduced maintenance cost . . . safer, cheaper movement of products, cases, boxes, cartons, bundles, sheets, pans, straight away — or around curves, but applications are limited only by your imagination.

If you can't see our booth at the Material Handling Show, better write at once for folder — today!

ANOTHER FIRST FOR **ALVEY-FERGUSON** OF CINCINNATI

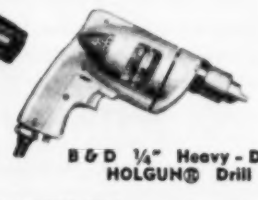
THE ALVEY-FERGUSON COMPANY
Since 1901 — First in the Field of Product Handling Equipment
341 Disney Street Cincinnati 9, Ohio

If you write maker identify as IEN - 6015

Black & Decker OFFERS WORLD'S MOST COMPLETE LINE OF PORTABLE ELECTRIC DRILLS

TOWSON, MD. — The wide selection of drills in the complete Black & Decker line includes the right tool for any portable drilling job. These models range from ¼" to 1¼" capacity . . . offer a choice of speed, power, and handle arrangement for easiest operation. Whether your job calls for a standard or a heavy-duty model, you get a powerful B&D-built motor, perfect balance plus all the stamina Black & Decker knows how to build into a tool. For demonstration, see any B&D distributor. For free literature, write: THE BLACK & DECKER MFG. CO., 608 Pennsylvania Ave., Towson 4, Md.

B&D 1¼" Heavy-Duty Drill



B & D ¼" Heavy-Duty HOLGUN® Drill

LEADING DISTRIBUTORS EVERYWHERE SELL

Black & Decker
PORTABLE ELECTRIC TOOLS

"I WISH I HAD"

This column concentrates upon reader requests for information on sources of supply for products or services or technical advice which we ourselves cannot supply, advises you of new patent-protected products for your possible manufacture, and available surplus of specialized products.

It is published to invite your suggestions and comments, which are forwarded immediately to the originator, just as we will be happy to publish similar problems for you.

ENGINEER . . "I wish I had contact with a manufacturer who needs the services of an engineer experienced in welded design, fabrication, and in construction involving steel, concrete and timber. I am located in Chicago." **IEN W-34**

NEW PRODUCT . . "I wish we had contact with a small manufacturer, possibly on the West Coast, for whom we could operate as Eastern manufacturer and distributor. We are equipped for medium size machine and assembly work in steam valve and electrical lines. Brooklyn, N. Y." **IEN W-35**

NEW PRODUCTS . . "I wish we had contact with a company or individual for whom we could manufacture some new small product with high potential sales. We have a modern plant in Cambridge, Mass., with facilities for assembly, packing and shipping. We are financially in position to sponsor any project in which we might find interest." **IEN W-36**

PROCESSING . . "I wish we had a source from which we could purchase used stainless steel reactors in capacities of 500 to 2,000 gal. either with or without an agitator and either jacketed or straight fired. New York City." **IEN W-37**

Pump . . "I wish we had a variable displacement pump that can deliver a maximum of 500 gpm. on low pressure and has a maximum pressure of 15,000 psi. We are located in Midland, Texas." **IEN W-38**

SURPLUS . . "I wish we had a buyer for three Simplex and one Cincinnati spring wound time recorders. All are in good running order. Davenport, Iowa." **IEN W-39**

SURPLUS . . "I wish we had a buyer for a Metco metallizing gun with gages, hoses and about 40 lb. of assorted wire. We have it listed at $450. It is in Minneapolis." **IEN W-40**

SURPLUS . . "I wish we had a buyer for a Megger self powered insulation tester that measures to 10,000 megohms. It is in Minneapolis and priced at $225." **IEN W-41**

(Please turn to page 127)

TAX FACTS

PERSONAL INCOME OF AMERICANS HAS MORE THAN TRIPLED SINCE 1939...

BUT...

UNCLE SAM'S TAX TAKE IS 21 TIMES WHAT IT WAS IN 1939

Produced as a public service by the Chamber of Commerce of the United States

If you write maker identify as IEN - 6016

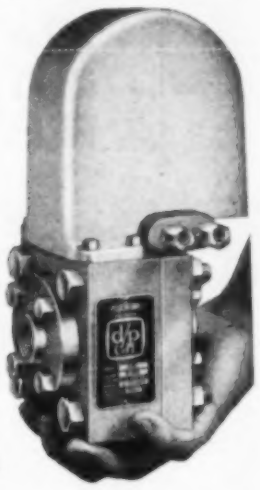
Induced Draft Bifurcator Fans provide constant draft for boilers and furnaces at a fraction of the cost of a suitable stack. These fan units install just like a flanged section of breeching. Fan motor, in chamber isolated from flue gases, is always clean, cool and accessible. Available in 24 sizes. Phone your DeBothezat representative or write for illustrated catalog on Induced Draft Bifurcator Fans.

DeBothezat Fans

Division of American Machine and Metals, Inc.
EAST MOLINE, ILLINOIS

If you write maker identify as IEN - 6017

SIMPLER FLOW MEASUREMENT in the palm of your hand



NEW! MERCURY-LESS!
FOXBORO
DIFFERENTIAL PRESSURE CELL

Simplify troublesome flow problems . . . especially where corrosion is a factor or the use of mercury is objectionable. This unique flow measuring device — the Foxboro d/p Cell — reduces installation and operating costs, combines measurement and transmission in one simple, compact unit.

OUTSTANDING FEATURES

- *Uses no mercury*
- *Zero Displacement*
- *Easily calibrated*
- *Steel or Stainless Steel Construction*
- *Weighs only 20 pounds*
- *Ranges: 25" to 800" H_2O*

WRITE FOR BULLETIN 420. The Foxboro Company, 425 Neponset Avenue, Foxboro, Mass., U.S.A.

FOXBORO Reg. U.S. Pat. Off. ACCURATE FLOW MEASUREMENT

If you write maker identify as IEN - 6018

Performance Records Prove

20-50% INCREASED LIFE!

Performance records in hundreds of installations show that *Texrope* grommet belts last 20-50% longer than ordinary belts. The more severe the service—the bigger the difference in belt life. Here are two big reasons:

1—Laboratory tests show grommet belts stretch only 1/3 as much as ordinary belts. Stretch leads to whipping and snub breaks.

2 — Pull apart tests show grommet belts have greater pulling strength than ordinary belts. The cord section of a grommet belt is made by twisting the individual cords into a continuous rope, thereby increasing belt strength.

Try *Texrope* grommet belts and see the difference! Call your nearest Allis-Chalmers distributor or District Office, or write Allis-Chalmers, Milwaukee 1, Wis.

A-3992

Texrope is an Allis-Chalmers trademark.

ALLIS-CHALMERS

If you write maker identify as IEN - 6019

NEW FLOORS In 24 Hours

Hard Mastic

HEAVY DUTY • DUSTPROOF • WATERPROOF
FIRE-RESISTANT • RESTFUL • QUIET
SLIPROOF • SANITARY

Install "PERMAFLEX" any thickness required over the old or new Floors, Walks or Drives. . . . Bonds perfectly —never comes loose, 3000 lbs. pressure per square inch, will not rut. . . . Outwears any other known flooring.

For interior or exterior use. . . . Floors installed on Friday night and Saturday are ready for use Monday. . . No chipping. No dust. . . . No production delays. . . . No need to move machinery . . . finish right up to it.

IF DESIRED, OUR CONTRACT DEPARTMENT WILL INSTALL "PERMAFLEX" FLOORS FOR YOU UP TO 30,000 SQUARE FEET PER DAY.

More than 500 leading industrial plants use "PERMAFLEX" . . . including U. S. Steel, General Motors, Chrysler, Remington Arms, General Electric, Western Electric, Westinghouse, Beechnut Packing and leading railroads. Never a failure in more than 1000 installations.

Test 100 square feet and be convinced. Write for literature and trial offer.

SALES:—
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Baltimore—Belmont 3770
Chicago—Fulton 5-4666
Detroit—Tuxedo 5-5500
New York—Wis. 7-5474
Norfolk—2-9035
St. Louis—Lucas 3700
San Francisco—Gar. 1-3196

INSTALL COMPLETE 15c per square foot

PERMAFLEX PRODUCTS COMPANY
1846 NORTH FRONT STREET, PHILA. 22, PA.